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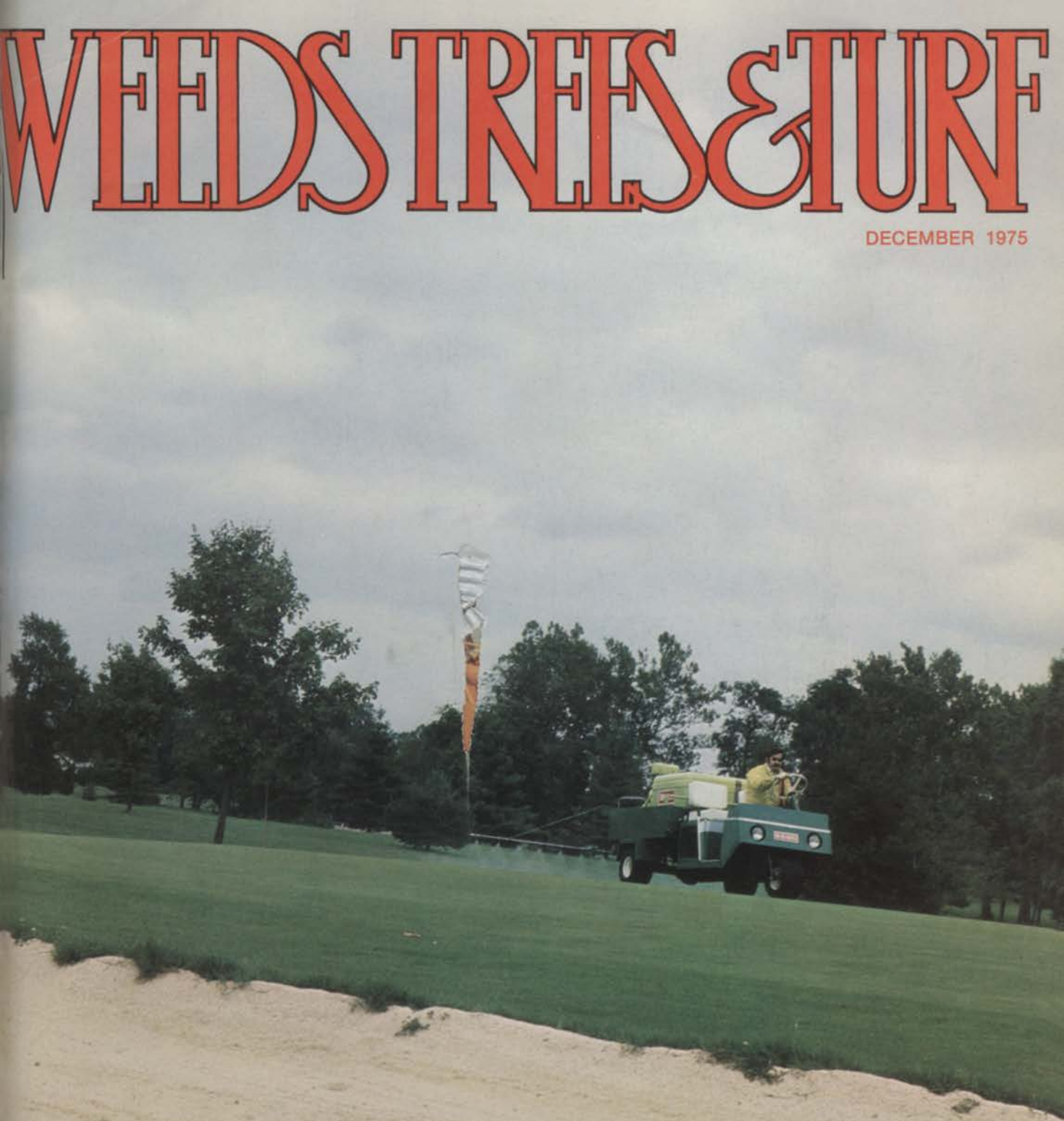
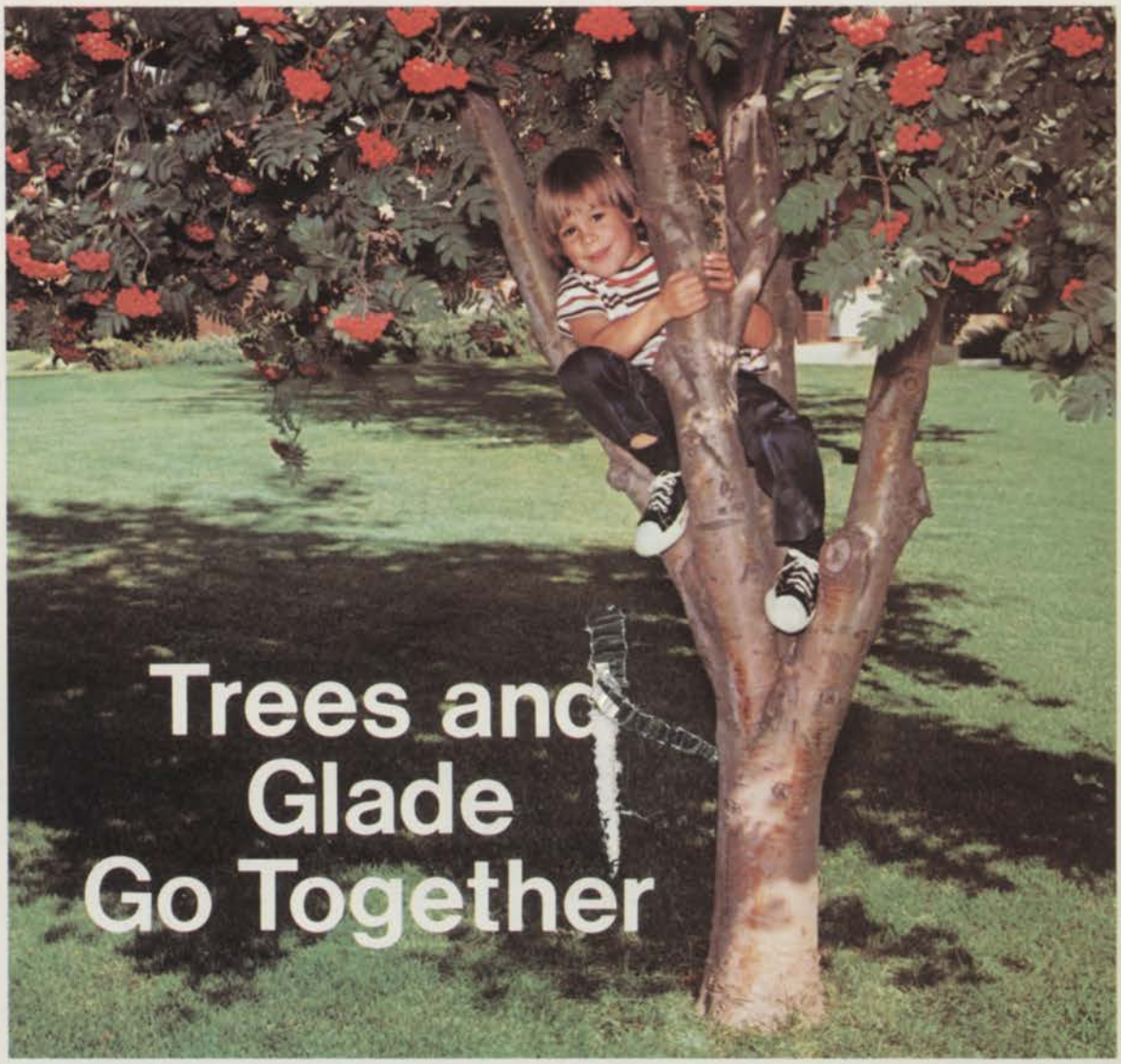
DECEMBER 1975



Grub Control With Organophosphates

1975 Author and Article Index

Green Industry Association Profile



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WEEDS TREES & TURF®

December 1975, Vol. 14, No. 12

14 **A Chemical Resistant Grub . . .** — Two well-known entomologists discuss new control approaches for the chlorinated hydrocarbon resistant Japanese beetle grub. Organophosphates in combination with milky spore disease, a natural predator of the grub, are being used with some success to obtain long term control.

18 **Junk Yard Owner Salvages Image** — Even a junk yard can be somebody's rose garden says Mike Nolan, owner of the Y Yard. And Nolan is out to prove that an auto salvage operation doesn't have to look like a junk yard. With the help of herbicides, Nolan and other salvage yard owners are able to clean up their operations and improve efficiency.

20 **New Deal for Old Course** — Over 150 golf course superintendents attended the 10th Annual Golf Turf Symposium last month in Milwaukee. Superintendents discussed change in greens construction, irrigation installation and renovation, and also general course reconstruction to meet with new maintenance standards.

26 **Slumping Economy, Rising Costs** — That's been a pretty familiar tune for many green industry businessmen in 1975. But it's the sod grower this time who's our subject. The national decline in home building has hit the grower hard. And now it's up to the individual to determine his course of action for 1976.

32 **Green Industry Association Report** — We asked the green industry associations again this year to list their accomplishments in 1975 and goals for 1976. Here's a report on the 17 major associations.

38 **1975 Article and Author Index** — For our readers who keep back issues of WEEDS TREES and TURF, here's an index of articles and contributing authors for 1975.

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Single Copy Price: $1.00 for current and all back issues. Foreign $1.50. Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. and Canada are $10.00 per year; other countries, $12.00 per year. Controlled circulation postage paid at Cleveland, Ohio 44101.

THE COVER — On the 18th green at the Ashland Country Club, Ashland, Ohio, is a compliment of new products for 1976. On top is the Meyer's new "Turfline" sprayer. And providing the motive force for this operation is E-Z Go's GT-7 utility turf vehicle.

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THE HARVEST PUBLISHING CO.
9800 Detroit Ave.
Cleveland, Ohio 44102
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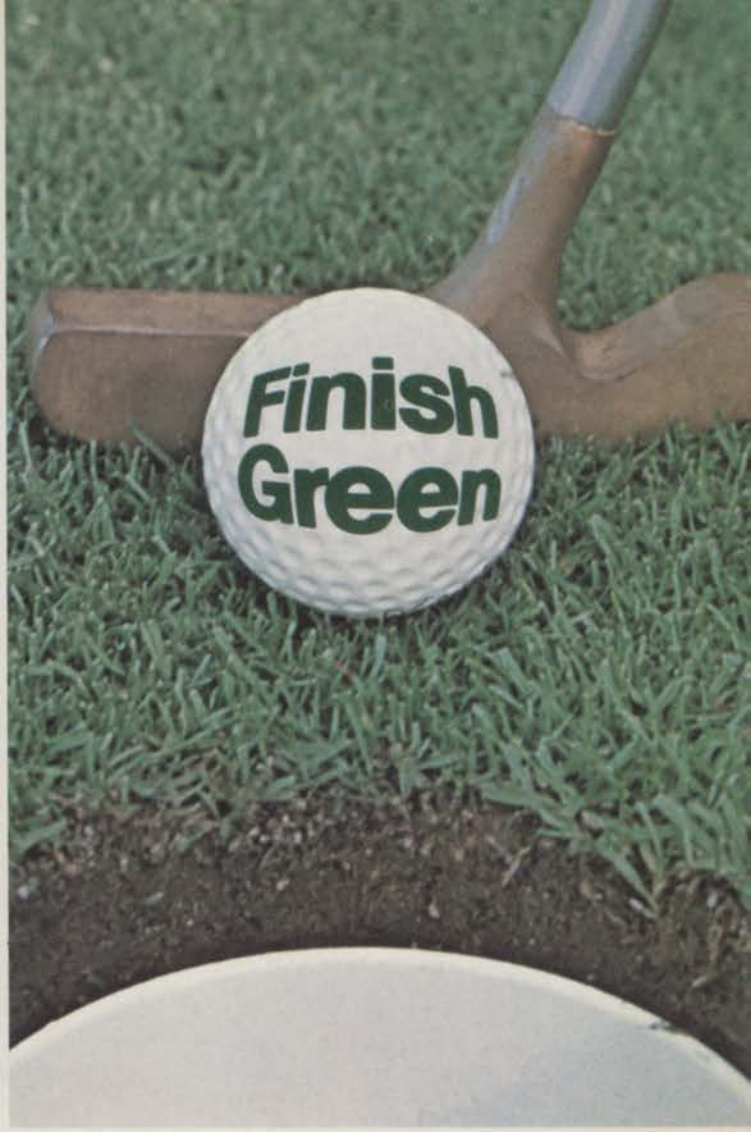

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Editorial

Possibilities for improved business in our industry are stronger than they have been in a couple of years. And that's quite an achievement . . . even with the roller-coaster summer the national economy has been having.

A month ago, the U.S. economy seemed to be bursting out of a recession like a swimmer coming up for air. Profits of major corporations were increasing, output of industry was up, more people were at work, retail sales were rising rapidly and personal income was increasing. Even prospects for slowing the rate of inflation were good. At the core of the recovery, output of American business came back stronger than normal in the 2nd and 3rd quarters and massive reduction of inventories was in full swing.

Through November, however, the situation became much less encouraging. Some big business areas were cutting back and the recovery was slowing considerably. Some experts feared an end to the recovery and possible entry into another recession. But, most economic observers still feel general business indicators continue to improve and probably still will be improving through all of 1976, even though the recovery is slower than before.

Many commercial turfgrass managers believe 1976 will be a lot like the last few years in some respects: higher volume, higher prices and tougher problems. But, businessmen in the industry believe demand at facilities and demand for services will make 1976 a better year than most.

In most segments of the green industry the basic indicator — however far removed — is consumer optimism. While many observers rate consumer confidence in the economy less than strong . . . it is, at least, improved from a year ago. And to back it up, personal incomes are moving up well (an increase of 8.4 percent from June to September) and income from small businesses and from dividends and interest is increasing.

We recommend an optimistitc approach to 1976 . . . a plan of action aimed at expansion and growth. If "know your costs" was the favorite phrase of 1975, then "plan your growth" is the slogan of 1976. It may be a year for rebuilding, but 1976 is a year for growth.DDM

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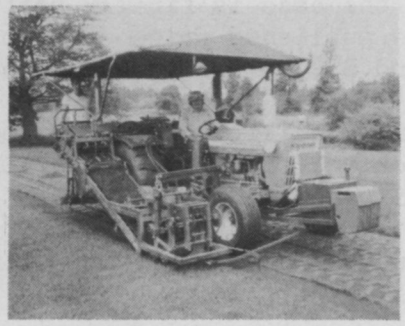

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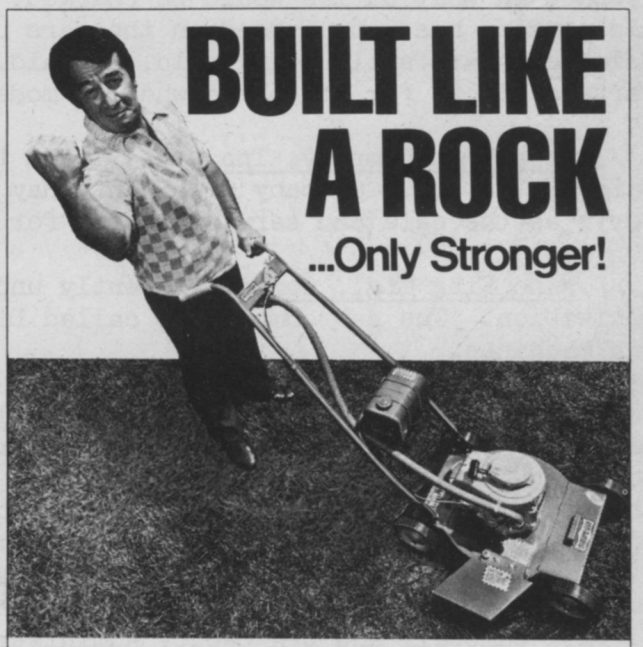

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Government News·Business

Outboard Marine Corporation, parent of Cushman-Ryan turf care equipment reported preliminary net earnings of $20 million for fiscal 1975. Sources claim the 1975 net earnings constitute a 20 percent increase from fiscal 1974.

Toro Company recently acquired the assets of Ohio Toro Company of Cleveland. Toro president, John T. McLaughlin, said the new acquisition will become part of Toro Sales Company, the subsidiary that manages company-owned distribution centers in other parts of the country. The purchase price was not disclosed.

Anti-dumping case against Melex, U.S.A., Inc., Raleigh, N. C., has been ruled upon by the federal International Trade Commission. An ITC spokesman said that some golf cars being imported into this country by the Polish manufacturer have been sold at "less than fair value" and have injured the American golf car industry. Clem W. Sharek, executive vice president of Melex, said his company had been notified that golf cars being imported into the country by his company would be assessed dumping duties. He said it may be the middle of next year before a decision is reached on what duties would be charged. Sharek is still importing golf cars and his company has put up bond on the cars until the case is finally settled. And the Melex cars are still being sold, he said. The published price of 1976 Melex golf cars is $1,695 for its three-wheeled models and $1,765 for its four-wheeled models.

B. Hayman Company, Inc., has moved to a new facility at 94-062 Leokane Street, Waipahu, Hawaii. Company president, Ray McMicklen, said the new facilities will serve as the sale and service outlet for Hawaii and the Pacific area.

Wind King Mfg., Company recently underwent a transfer of ownership and reorganization. The new company is called Digz-All, Inc., and produces a line of trenching machines.

Safe-T-Lawn, Inc., and Moody Sprinkler Co., Inc., signed a manufacturing and marketing agreement. Each company will retain its individual identity in relation to management, financing and most of the manufacturing. Safe-T-Lawn is strong in the plastics field and Moody is strong in the brass field. The companies feel the agreement will give both companies a formidable product line for all major markets.

A "memorandum of understanding" was recently signed by USDA Under Secretary J. Phil Campbell and EPA Deputy Administrator John R. Quarles, Jr. signifying federal participation in the imported fire ant control program. The agreement came as a result of recent technological advances in formulating the pesticide mirex, the principal chemical weapon used to destroy fire ants.

Bill passed by Senate which would allow interstate pipelines to purchase natural gas from unregulated intrastate market to alleviate shortages this winter. Bill also provides long term solution to gas shortages by deregulating "new" inshore gas next spring and by phasing out regulation of "new" offshore gas over the next five years. Sources say outlook for House approval is uncertain. Probability is that House will approve emergency portion, but not long range portion.

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Turf Truck's 50-bushel collection box offers greater capacity for the self-contained Vacuum Pickup attachment.

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Giant 80" batwing mower reaches under fences and shrubs, and over creek beds. Batwings retract to 48" width.

Choose the GMT, Turf Truck or Three Wheeler. All offer proven performance and all-season versatility.

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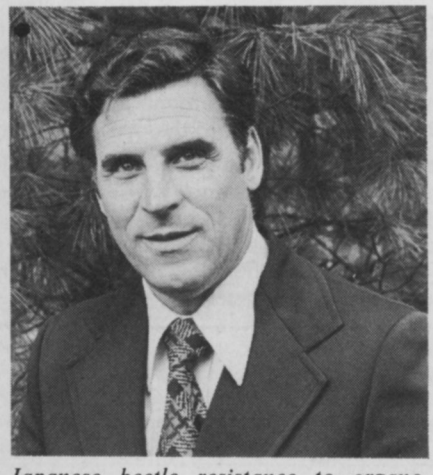
A Chemical Resistant Grub . . . A New Control Approach

"JAPANESE BEETLE resistance to chlorinated hydrocarbons is a documented fact," says Dr. Richard Miller, Ohio State University extension entomologist.

"That's not to say that all Japanese beetle populations are showing resistance, but the incidence seems to be increasing. Controlling resistant populations means turf managers must switch to their only chemical alternative — organophosphate compounds," he explains.

That's precisely what Tom Buehner, Fox Chapel Country Club greens superintendent, Fox Chapel, Pa., did when the golf course had a severe infestation of Japanese beetle grubs a year ago. "We'd been using chlordane for so long that the grubs seemed to get fat on it," recalls Buehner. "We had to apply Diazinon to get good control."



Japanese beetle resistance to organophosphates hasn't occurred, but if they're applied indiscriminately, there's trouble ahead, predicts Dr. Richard L. Miller, extension entomologist, Ohio State University.

Milky spore disease, a biological control method is another alternative to chlorinated hydrocarbons, reports John L. Hellman, University of Maryland, extension entomologist.

"Several years ago, Maryland had a statewide milky spore application program designed to control Japanese beetles. A dramatic decline in the population was attributable to the program," relates Hellman.

A combination of milky spore and organophosphates might be the best answer to controlling resistant Japanese beetle grubs, suggest Hellman.

"Organophosphates will give quick, short term control of the grubs and should be used only when grubs become too numerous. Milky spore, three to four years after application, can give long term control. They're much more compatible than chlordane or aldrin," explains Hellman.

Insecticides are generally not compatible with milky spore because they kill off the grubs necessary for spreading and multiplying the spores. "Insecticides are needed when counts exceed three Japanese beetle grubs per square foot," says Hellman.

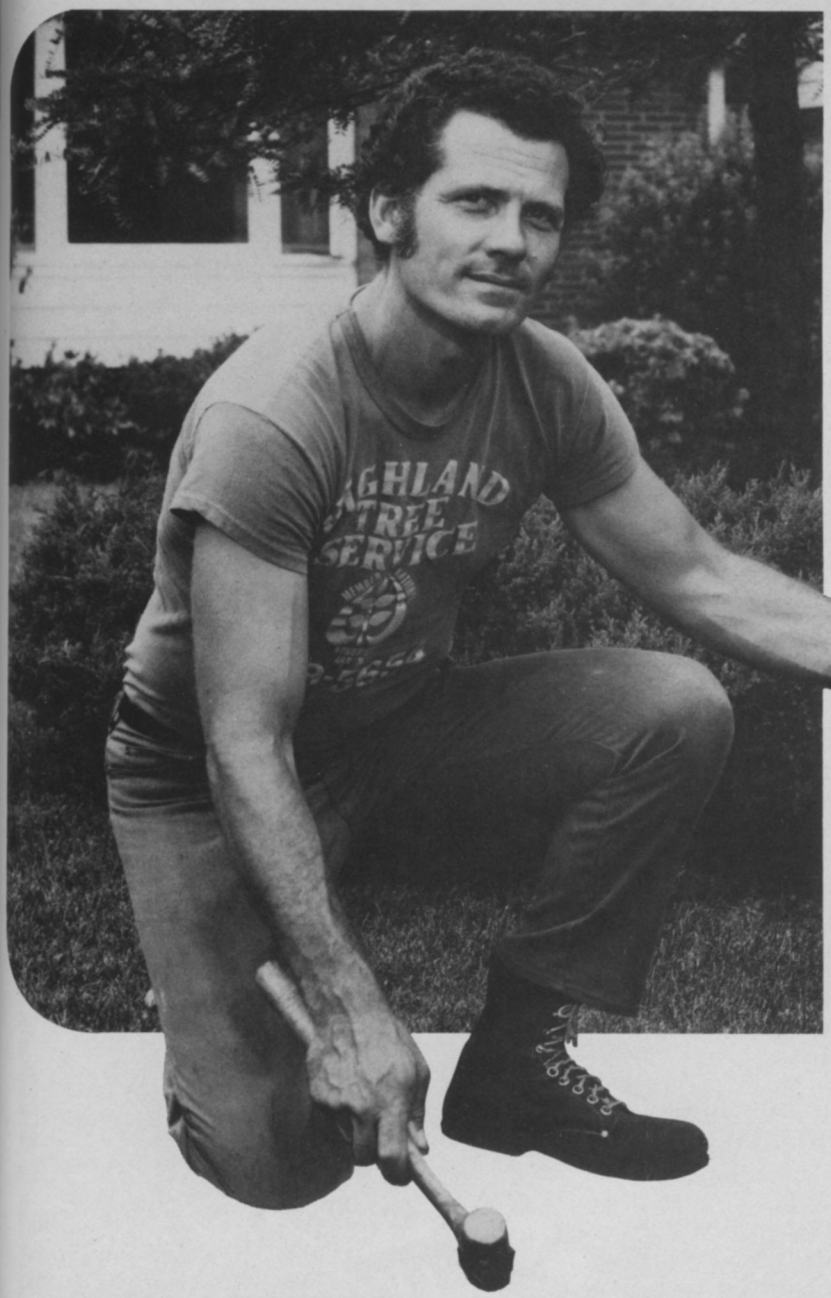
When the situation demands using an insecticide, turf managers are cautioned not to use chlorinated hydrocarbons. Instead use organophosphates in conjunction with milky spore, Hellman advises. "Organophosphates are active for a brief period compared to chlorinated hydrocarbons which can persist for three to four years. A few grubs are better than none when using milky spore disease," explains Hellman. "Short residual chemicals allow more flexibility in years when grub counts are naturally low.

"As strange as this might seem, it's not good to totally eradicate a population. When that happens, the milky spore remains inactive until grubs are reintroduced into the soil. Because beetles are very mobile, they can reinfest turf in a short time. Then milky spore will again continue to multiply," explains Hellman.

Organophosphates give fast and effective grub control and work very well with a milky spore program to give both long and short term Japanese beetle control, says John L. Hellman, extension entomologist, University of Maryland.

"Turf managers are very familiar with the properties, limitations and application techniques of chlorinated hydrocarbons," notes Miller. "But organophosphates have different characteristics that must be taken into consideration," he reports.

(continued)



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GRUB *(from page 14)*

"There's not a wide margin of error when using short residual organophosphates. Product labels have very specific directions regarding application and post-application procedures," explains Miller.

"Watering the treated area immediately after application is important for many insecticides, but even more so for organophosphates," says Miller. "If it's not watered in immediately, the compound will dry on the grass or get tied up in the thatch and not penetrate the soil deeply enough with sufficient toxicity to control the grubs."

Ultraviolet rays of sunlight will rapidly decompose most organophosphates if they are allowed to remain on the surface of the ground. That's another reason for watering in, he adds.

"Using short residual insecticides requires more management input on the part of turf managers," notes Hellman. "Timing of application to synchronize with the migration of grubs to the soil surface is critical, because organophosphates are effective for only three to four weeks.

To be certain that grubs will be contacted by insecticide, it's vital to inspect before application, says Hellman.

Miller and Hellman agree that turf managers should abandon high rate, preventative programs.

"One of the reasons resistance has developed agains chlorinated hydrocarbons is because applications have been routinely scheduled," claims Hellman. "Instead, insecticides should be applied only when needed and then only apply as much as is required to get control.

"Chemical insecticides are tools with time limitations," states Hellman. "The more of one insecticide that's used, the sooner it could become ineffective."

Japanese beetle resistance to organophosphates hasn't occurred, but it could, reports Miller. "If they're applied indiscriminately, and this has often been the case with chlorinated hydrocarbons, resistance is certain to develop. Should that occur, there's trouble ahead. We're not overly blessed with a multitude of chemical insecticides," concludes Miller. □

Short residual insecticides require more management expertise, says Miller. "Frequent inspections for grubs and other insects means getting down on your hands and knees to diagnose the problem correctly," he said.

"Our experience with your lawn seed, Game, was so unusual I felt that you would be interested in hearing about it.
An abandoned hospital site which had stood idle for 15 years was seeded on July 3. Our only preparation was to grade, install a sprinkling system, and water.
It was difficult to believe that less than 4 weeks later, on July 28, we cut the grass for the first time.
I cannot speak too highly of your remarkable grass seed, Game."
Lt. Col. John LaFranchise
Gowen Field, Idaho

"In May, 1974, we prepared a seed bed and sowed Game. Within 3 days the seed germinated and had ¼-inch grass showing. In 4 weeks, we had a beautifully established green lawn.
Soil conditions being different does not seem to deter Game from germinating. Neither have I observed any winter effects. The lawn stands up to children's activities and has the resilience of a plush pile carpet. I would recommend Game to any landscaper or homeowner. I plan to use Game whenever possible."
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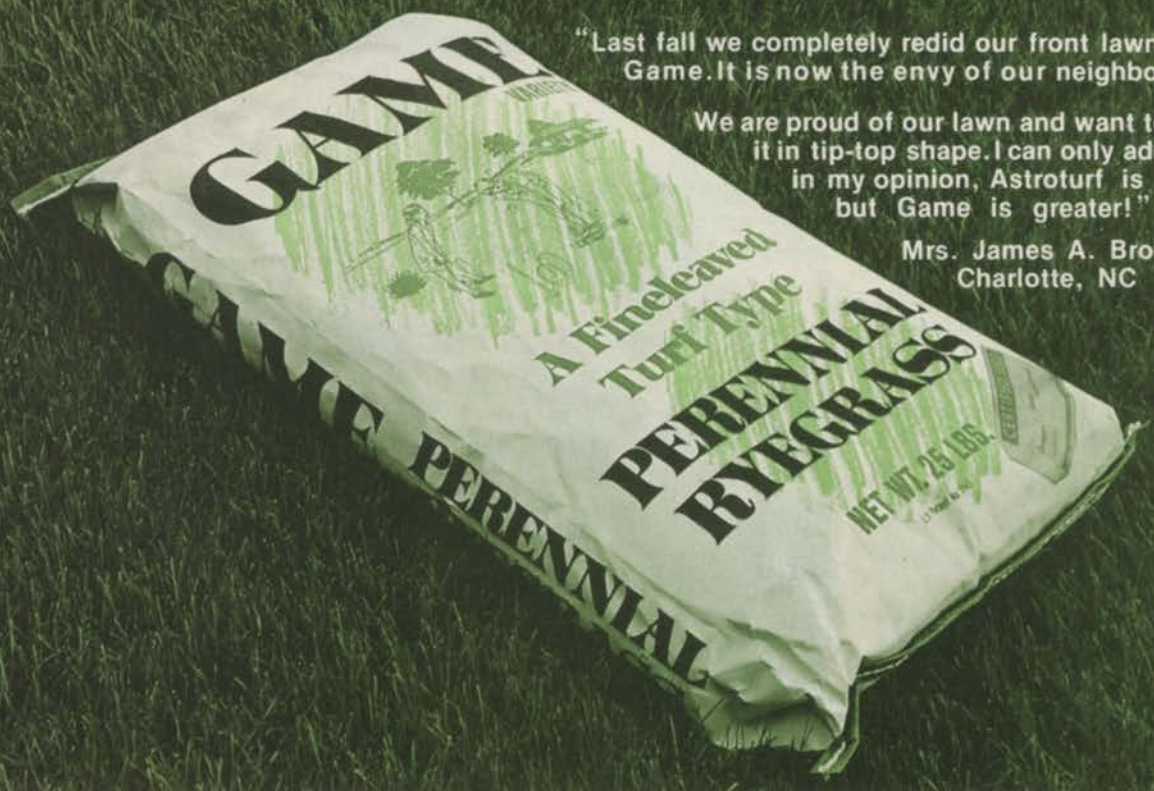

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Junk Yard Owner Salvages Image

This sign puts Mike Nolan's point across. He really believes his salvage operation is his "rose garden."

Mike Nolan of Effingham, Illinois, believes in that old saying, "Beauty is in the eyes of the beholder", and he's doing his best to convince others. The sign in front of his auto salvage yard reads, "This is NOT a junk yard, this is my ROSE GARDEN."

Nolan, owner of the Y Yard, is especially interested in improving the poor image of the salvage business nationwide and it is his goal to make his salvage yard look like a "rose garden" to everyone. Recently, he surrounded the property with climbing rose bushes provided for beautification purposes by the state of Illinois. Nolan hopes these bushes will eventually grow into a high, thick wall to block his salvage autos from the view of passing motorists.

He appreciates the value of a weed-free salvage yard. Weeds and tall grasses are not only unsightly, but they also increase the threat of fire and provide a haven for rodents and snakes.

Mowing is time-consuming and it is almost impossible to mow around cars once they are placed in the yard. Seeking better methods of weed control, Nolan and other salvage yard owners have been successful with the use of herbicides around and under the cars.

"We need to keep weeds and grass under control," Nolan says. "I've been pleased with the results of 'Hyvar' X-L bromacil weed killer, applied at a rate of four gallons per acre. It is a water soluble liquid that is easy to spray."

In nearby Terre Haute, Indiana, Kenny Palmer, manager of the Big 4 Auto Wrecking Co., has discovered that "Hyvar" X-L and "Trysben" 200 work best for him.

Vegetation surrounds autos in Big 4 yard prior to use of herbicide.

"Trysben" 200 was applied to eliminate thick growth of vines and brambles. A surfactant was added at a rate of two quarts per 100 gallons of water to increase the contact activity of the herbicides on tall vegetation.

Palmer explains, "We put the 'Hyvar' X-L on heavy (seven gallons per acre) because we wanted to get those weeds for sure."

Weed control at Big 4 is part of a continuous program to improve roadways and generally upgrade the appearance of the salvage yard. Palmer has nearly 3,000 cars on nine acres of a 17-acre tract. He can't afford to let the weeds and brambles get the best of him.

(continued on page 22)

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Wisconsin Turf Symposium

NEW DEAL FOR AN OLD COURSE

Some golf courses age beautifully and require little corrective surgery over the years to withstand the assaults of the modern game and equipment. But most need help through architectural change.

Over 150 golf course superintendents gathered last month in Milwaukee for the 10th annual Wisconsin Golf Turf Symposium which was organized to help superintendents at courses contemplating change soon. The mix of superintendents included some looking for nuts-and-bolts answers to questions that soon will be asked them as they get into a rebuilding program at their course; to some interested mostly in how programs are run at some of the bigger courses around the country. Many speakers were superintendents at these older, established clubs. The seminars touched off discussion both formally and informally, and most went away with something to help them at their own course when change is needed.

Golf course architect Robert Trent Jones started the three-day conference off with slides and his general philosophy of golf course design. The rest of the seminars dealt with getting a reconstruction program off the ground, the importance of involving the superintendent in course changes or construction, and the importance of an experienced golf course contractor working with a set of detailed specifications understood by all involved in the project.

Jack Allis, green committee chairman at the Country Club of Milwaukee, explained it is important to inform the members of what is going on with any changes in the course, and to communicate with them throughout the course of the job. National Golf Foundation consultant Fred Stewart also stressed this point because there are inevitably delays due to weather, financing, etc., and these delays can be a major irritation to club members.

Stewart and Jaames L. Holmes, president of The Green Makers, Bryan, Texas, said there are no short

Richard E. Valentine, superintendent at Merion Golf Club, Ardmore, Pa., reported on installation of a $123,000 automatic irrigation system recently installed at his club with nine miles of pipe.

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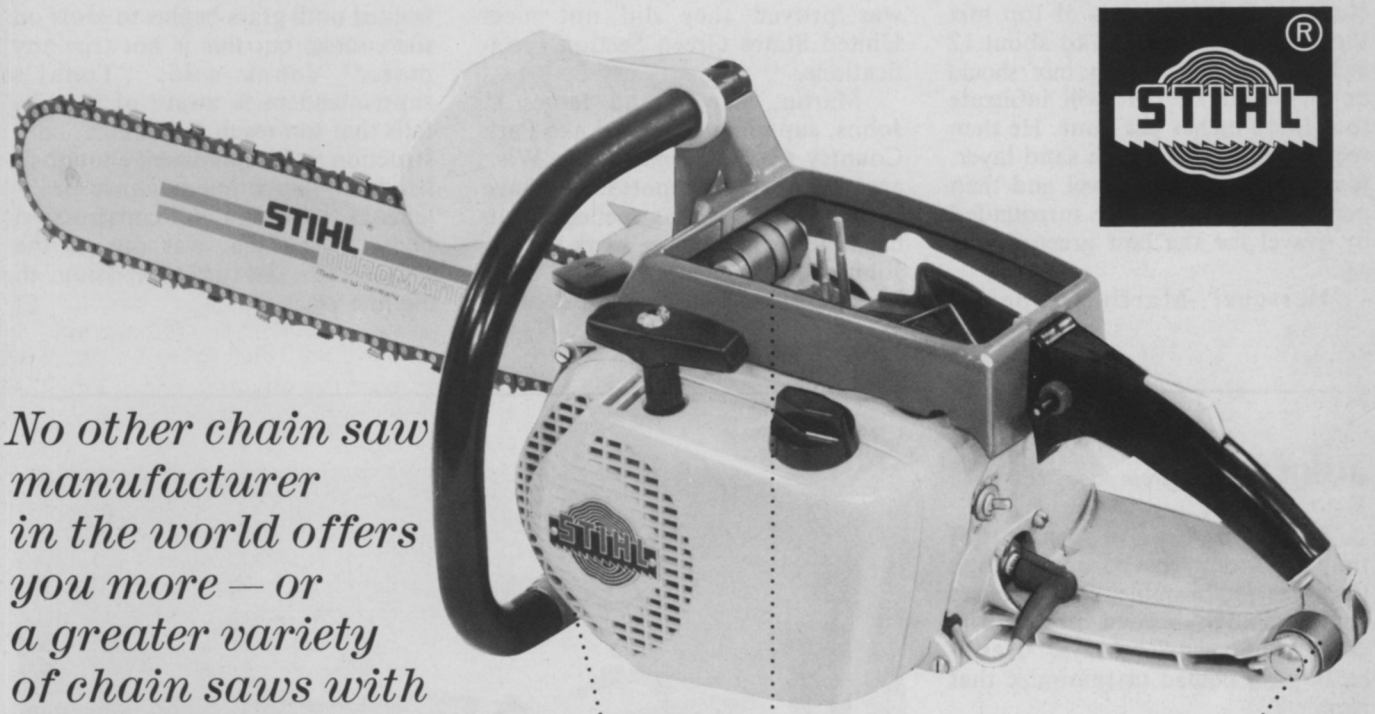

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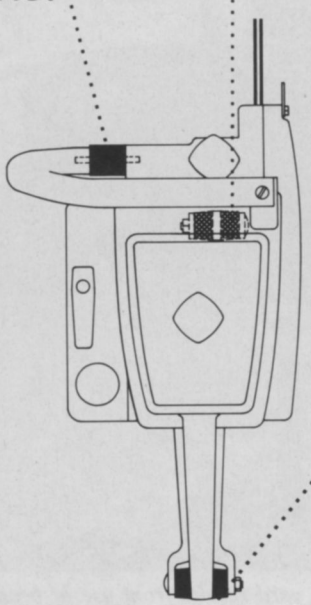

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NEW DEAL *(from page 20)*

cuts to construction. "Drainage is the most important factor in building greens," Holmes said, "if you don't do it right the first time, you simply have to go back and do it again later. There are no ways to cut corners."

Holmes said of his specialty, greens, "It would be nice to just heap up a pile of dirt and grow grass and start putting, but we can't do that any more; we have raised standards so high that now we have to have superior drainage to satisfy." Holmes' formula for greens includes about 16 inches of top mix that will compact down to about 12 inches. He said the top mix should be any material that will infiltrate four to 12 inches per hour. He then recommends a two-inch sand layer, four inches of pea gravel and then perforated drainage tile surrounded by gravel for the best green drainage.

Herschel Martin, superintendent at Ridgeway Country Club, Memphis, Tenn., explained when the greens at his club were first built, compaction figures and percolation rates were explained informally to course owners, not held to, and the greens were not good enough when built. He said his greens were so hard he needed a sledgehammer to pound his cup-cutter into the green, and that golf spikes would not penetrate the green. "The club's golf committee paid off the architect, cancelled his bond, then started to complain to me." The architect later had to rebuild the greens when it was proved they did not meet United States Green Section specifications.

Martin, Stewart and James L. Johns, superintendent at Lake Park Country Club, Germantown, Wis., agreed that it is important to have definite specifications spelled out in black-and-white before work begins. Johns is currently embroiled in a lawsuit between the owner and architect of Lake Park. He has been called as a witness in the lawsuit, and said it is very hard to defend the owner's position when "you only have two pages of loose specifications to work from in court." Johns said the specifications contract is an insurance policy to the club and should lay out in detail exactly what is to be done, what materials should be used and when the responsibility of the architect, contractor, superintendent and owner begins and ends.

"Many owners and architects think the superintendent is not needed until grass begins to grow on the course, but this is not true any more," Johns said. "Today's superintendent is aware of the pitfalls that can result from faulty construction and is intelligent enough to head off future maintenance problems at the design and construction phase." And that was one of the reasons for the turf symposium in the first place. □

JUNK YARD *(from page 18)*

"In the past, we've spent lots of time and money just cutting through the vines and brambles so employees could remove needed parts from cars in the yard," he says. "Herbicides have helped us minimize that problem."

Nolan faces many of the same problems but he has more land (60 acres) for his "rose garden" near Effingham. He points out, "This large tract allows me to organize my 1,500 cars in a 20-acre section. However, it also increases my need for excellent weed and grass control. I'm convinced an annual program of herbicides is the best way to go."

Herbicides are available in farm supply stores and most areas have custom applicators who will put them on. However, Palmer and Nolan elected to handle the application themselves. Palmer borrowed a neighbor's sprayer and gun, while Nolan built a sprayer from pieces of "junk".

If Nolan has his way, his dream of a "rose garden" will become a reality to lots of people in the near future. □

Clean yard results from use of bromacil weeds killer around and under salvage autos. Mike Nolan's yard is laid out by row according to automobile make.

We'd like to lay down a few facts before you buy a new sprayer.

Looking at sprayers? Here are some facts you should consider about the Myers TL10E3 TurfLine, a sprayer especially suited to custom lawn and landscape service. **FACT NO. 1.** Consider its versatility. The TL10E3 is ideal for chemical applications on trees, shrubs, turf maintenance and even right-of-way spraying. **FACT NO. 2.** Consider its mobility. The TL10E3, with high flotation running gear, performs almost anywhere. Use it on park, golf course, lawn, landscape, nursery and most other spraying jobs on your schedule. **FACT NO. 3.** Consider its dependability. The TL10E3 is equipped with quality features proven in years of service on other Myers sprayer models – components like Myers Du-All pump (10 GPM, 500 PSI), 300 gallon epoxy coated steel tank, built-in suction strainer, hinged 21′ spray boom, arc welded box frame and many more – plus a choice of optional accessories. For more facts, call your Myers distributor. You'll find there's nothing else around like the TL10E3. That's a fact you should consider too.

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Slumping Economy, Rising Costs Put Pinch on Nation's Sod Growers

Flat economic conditions and rising costs have put the pinch on almost everyone. And at the head of the list of determining factors contributing to the slump, at least for sod growers, is the nationwide decline in home building.

Leonard DeLalio, one of the largest sod growers on Long Island, New York, says it's been a downright bad year. He is part of a $7-million-a-year industry there, and an estimated $225-million industry nationally. For more than two decades it has been a booming business, largely because home building in the nation, stimulated by an expanding economy, was on the rise.

But the economy has stopped expanding.

"The virtually zero growth of home building on Long Island has led to at least a 12 percent decline in our revenues," said DeLalio. His farm on the island's North Shore, is one of three that take in a total 800 acres that DeLalio owns. His sod is a combination of the Merion and Fylking varieties as well as three other blends and two mixtures. His other two farms are in Eastport and Farmingdale.

But DeLalio had more problems this year than just the stagnant economy. "Sod requires as much tender-loving care as a marriage," he said. "You can imagine how much it hurt us, then, when we discovered Fusarium blight on our crop this year." DeLalio estimates the blight resulted in at least an additional 4 percent decline in his revenues this year.

Indeed, the combination of the blight and the national economic downswing worked so adversely for the sod industry in 1975 that several sod farms in southern New Jersey, Washington State and Nebraska had shut down, according to American Sod Producer's Association statistics.

The *New York Times* reported that besides the blight, several areas in Nebraska and elsewhere in the country where sod is grown also suffered from a mixture of extreme rainfall and drought.

Bob O'Knefski, an agricultural extension agent with the Nassau Cooperative Extension Service in West Hempstead, New York, said that Long Island sod farms have been invaded this year by a variety of insects, most notably the "dung beetle."

"It was a disastrous year for sod," said O'Knefski. Most growers in the New York area had to turn to the experts at Cornell University.

Still, the mood among many sod growers continues to be one of concern.

"You see, it's not just all the natural causes that hit our business this year," says Dick McGovern, owner of the McGovern Sod Farms in Melville, Long Island. "The cost of our seeds, equipment and fertilizers has jumped between 100 and 150 percent. We have no choice but to absorb these things."

The McGovern enterprise, which comprises 600 acres of sod farms spread over four sites on Long Island — Melville, St. James, Mount Sinai, and Wading River — is considered the oldest sod business in the area. It was established 75 years ago.

Now McGovern, an energetic 38-year-old businessman who drives Continental Mark IV's and helicopters, supplies sod to the United Nations, West Point and Shea Stadium, as well as home owners.

Varieties of Bermuda Grass Tested for NPK Response

New varieties of bermuda grass are being tested for their responses to fertilizer.

Dr. Warren B. Anderson, Texas Agricultural Experiment Station soil chemist, is studying the responses of grasses which were recently developed by grass breeders and are not as yet on the open market. He is trying to determine both the production potential of the new varieties as well as the plant nutrient requirements for maximum forage production.

The research program has been underway for two years. The grass, which is planted in plots, requires a year to establish a good stand, says Anderson. During this time, the plots are tended and just enough fertilizer is added to ensure adequate coverage by the grass.

Three of the new varieties are under current testing. They are being compared with coastal bermuda, which is used as the standard reference for this research.

Fertilizer treatments are initiated in the spring. The treatments vary in the levels of the elements nitrogen, phosphorus, and potassium used. Anderson says one or two of the new varieties tested so far may be superior to coastal bermuda, the standard reference.

Once a really outstanding variety is found, more detailed research into its nutrient requirements and production potentials may be undertaken.

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Damaged Trees, Shrubs May Be Tax Deduction

In recent weeks severe wind and rain storms throughout the country have damaged a great number of trees and shrubs. Many persons are not aware destruction and loss of trees, shrubs and evergreens by storms are deductible from taxable income.

According to R. E. Abbott, vice president of Davey Tree Expert Co., Kent, Ohio, expenses involved in repairing or replacing damaged landscape plants and trees are exempt from taxable income, under conditions outlined in U.S. Internal Revenue Publication 547. These losses are deductible only in the tax year in which damage occurred.

A formula to determine the value of landscape trees, specimen shrubs and evergreens was developed by the International Society of Arboriculture, American Society of Consulting Arborists, National Arborists Association and American Association of Nurserymen.

"This formula should be used only by qualified professional plantsmen familiar with the characteristics of trees and plants in your particular geographic area," Abbott told WEEDS, TREES & TURF. "These men are capable of placing individual specimens in their proper classification, condition and location classes. Only a professional appraiser's value will be accepted by the IRS." He added members of the mentioned organizations are usually recognized as being qualified to appraise tree and shrub values.

Abbott said many insurance policies provide for the payment of up to $250 for the removal of trees and branches which fall on a house during a storm. In most cases, casualty from wind, tornado or hurricane is not covered unless the casualty tree damages a building or other construction.

Abbott said IRS rules for deducting casualty losses are different for business and residential properties.

- An individual who suffers a non-business casualty loss is entitled to a deduction for tax purposes to the extent the claim exceeds $100, similar to a casualty loss to any part of his residence.
- IRS regulations provide the cost or repairs are "acceptable as evidence of the loss of value," if the taxpayer shows the repairs to be necessary, reasonable in amount, do not go beyond damage suffered, and do not raise the property value above its pre-casualty level.
- Deductions are allowable for expenditures in the following areas: removing destroyed or damaged trees and shrubbery, minus value of any salvage recovered; pruning and other measures taken to preserve damaged trees and shrubs; replanting necessary to restore property to its approximate value before casualty.
- A business casualty loss is the difference in value of trees and shrubs only before the storm damage, and after, as determined by competent appraisers.

Shade trees can add thousands of dollars to the value of residential property, but severe seasonal storms take a constant toll of trees every year. Expenses involved in repairing or replacing damaged landscape plants and trees are exempt from taxable income.

More Irrigation, Fertilization With Sewage Water Is Seen

Increasing pressures to conserve energy will lead to widespread use of sewage water for irrigation and fertilization, according to James W. Adams, vice president and general manager of the Irrigation Group of Toro Company.

Adams said golf courses will be among the first to make extensive use of recycled sewage water but the practice will spread to all types of turf and vegetation management, including agriculture.

"The advantages of on-land disposal of sewage water have been well-known for years," Adams told WEEDS, TREES & TURF. "But interest in on-land disposal systems is now accelerating because of the combined effects of water shortages and the energy crisis."

He said the energy crisis has increased costs for pumping water and for fertilizers derived from oil and natural gas.

With state and federal laws now requiring sewage water disposed into lakes or streams be virtually pure, alternative systems for disposal are becoming more attractive, he said.

"And when you consider that the principal pollutants in sewage water are nitrogen and phosphorous — which all plants must have in order to grow — it doesn't make much sense to be wasting both water and nutrients, as well as the energy to dispose of them, when it isn't necessary," he said.

Don't let a snow job determine which blade you buy.

In this part of the country, clearing snow from farm roads, feedlots and other areas is a necessity.

But when you start laying out hard-earned money for a rear-mounted blade, you want one that'll do more than just remove snow.

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That's why you should consider a Servis Rhino. Because Rhino blades are precision engineered and manufactured under stringent quality controls.

Rhino blades are designed to cut and roll the soil. They don't drag. So there's less strain on your tractor And their heavy gauge steel, all-welded construction provides extra strength against bending and shock loads.

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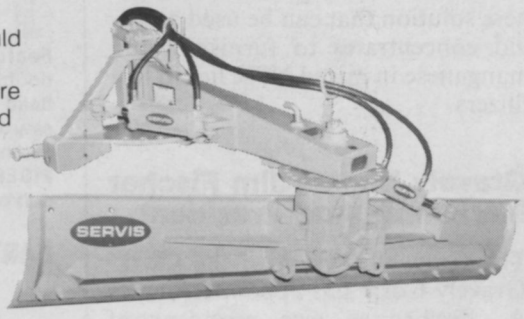

Altogether, Servis makes five quality Rhino blades for tractors with 20 to 150 drawbar horsepower. Everything from the light duty Rhino 100 to the massive Rhino 1400, some with optional hydraulics. And they're available with 6′ to 10′ reversible moldboards.

So before you let a snow job determine which blade you buy, see your Servis dealer and ask for a demonstration. Then buy a blade you can use all year 'round. A dependable Rhino blade.

For more information about the complete line of Rhino blades, contact your nearest Servis dealer. Or write to Austin Products, Inc., Dept. S-4, P.O. Box 1590, Dallas, Texas 75221.

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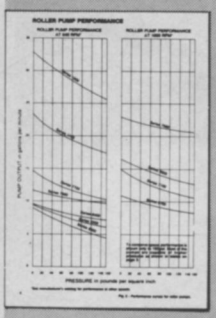
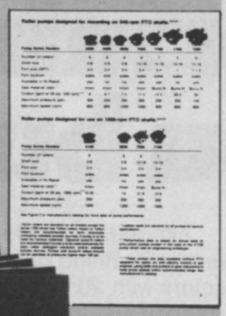
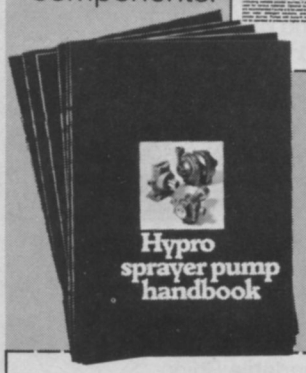


Graphs of pump outputs, flow through spray nozzles and pressure drop in hose.

How to select the right pump and sprayer components.





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Proper Turf Fertilization Increases Wear Tolerance

Proper fertilization can increase the ability of turfgrass to withstand daily trampling such as that on a golf course, according to a University of Nebraska-Lincoln horticulturist.

Dr. R. C. Shearman reported to a session of the annual meeting of the American Society of Agronomy recently on studies done with the Toronto variety of creeping bentgrass. He and James Beard of Texas A & M University found that adding nitrogen up to 12 pounds per thousand square feet per season increased the wear tolerance of the turf. Fertilizing beyond that point reduced wear tolerance significantly.

Added potassium also increased the wear tolerance of the grass, with the greatest increase resulting from six to eight pounds pf of potassium per thousand square feet per season. This was on Nebraska soils, which are relatively high in potassium. Dr. Shearman recommends metering out the potassium with two or more applications during the season.

Manganese Stays Soluble In New Patent Fertilizer Use

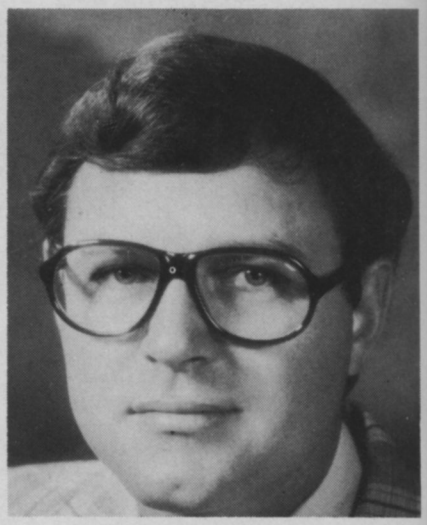
A government patent has been granted to an inventor — Richard J. Windgassen of East Chicago, Ill. — outlining the use of manganese sulfate in conjunction with aqueous NPK fertilizers, in such a fashion that the manganese remains in the soluble state.

The importance of this invention is that it allows manganese to be readily available when applied in liquid form along with NPK fertilizers.

Windgassen said that as a result of the examples presented in his patent, it is apparent that his invention provides a simple and effective means for forming stable manganese solution that can be used as liquid concentrates to furnish liquid manganese in mixed NPK liquid fertilizers.

Gravely Names Jim Fischer Marketing Vice President

The Gravely division of the Clark-Gravely Corp. has appointed James A. Fischer as vice president of marketing. Fischer comes to Gravely from the Toro Company where he



Fischer

was director of marketing for its Turf Products Div. Prior to that, he was district sales manager and then product manager for Toro.

He is a graduate of Purdue University with a B.S. in agronomy. He received his M.S. in turfgrass management from Michigan State University and M.B.A. from the Harvard Business School.

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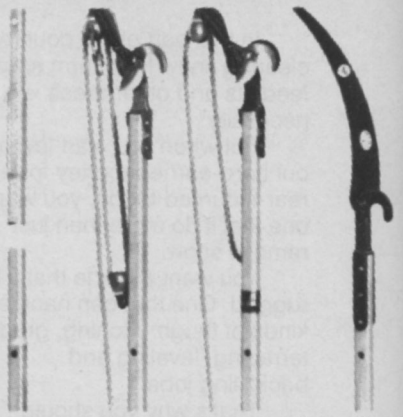

Features single-pulley (1¼" cap.) or double-pulley (1½" cap.) tree trimmer head section, and square-end mount pole saw head section with 4 ft., 6 ft. or 8 ft. extension sections with built-in, ALL-FIBERGLASS CONNECTING SLEEVE, and polypropylene rope.

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For More Details Circle (149) on Reply Card

Meeting Dates

Fourth National Legislative Conference, Fairmont Hotel, New Orleans, Louisiana, Dec. 16-17.

Western Association of Nurserymen, 86th annual meeting and trade show, Plaza Inn, Kansas City, Mo., Jan. 4-6.

Tennessee Turfgrass Association, annual conference, Rodeway Inn, Nashville, Tennessee, Jan. 5-6.

Mid-Atlantic Assocation of Golf Course Superintendents, annual conference, Holiday Inn Belmont, Chevy Chase, Md., Jan. 5-6.

Indiana Chapter, Internatonal Society of Arboriculture, Stauffer's Indianapolis Inn, Indianapolis, Ind., Jan. 6-8.

Northeastern Weed Science Society, 30th annual meeting, Statler Hilton Hotel, Boston, Mass., Jan. 6-8.

10 Week Winter Turfgrass Course, Cook College Campus, New Brunswick, New Jersey, Jan. 6-Mar. 13.

Pennsylvania-Delaware Chapter, International Society of Arboriculture, Marriott Hotel, Philadelphia, Pa., Jan. 7-9.

California Weed Conference, 29th annual meeting, El Cortez Hotel, San Diego, Calif., Jan. 19-21.

Kentucky Chapter, International Society of Arboriculture, Stauffer's Inn, Louisville, Ky., Jan. 20.

Michigan State University Turfgrass Conference, Kellogg Center, East Lansing, Michigan, Jan. 21-22.

Ohio Chapter, International Society of Arboriculture, Sheraton Columbus Hotel, Columbus, Ohio, Jan. 25-29.

Southern Weed Science Society, 29th annual meeting, Statler Hilton, Dallas, Texas, Jan. 26-29.

One Week Winter Short Course, Turfgrass Management, West Tennessee Experiment Station, Jackson, Tenn., Jan. 26-30.

Virginia Turfgrass Conference, Sheraton Motor Inn, Fredericksburg, Virginia, Jan. 28-29.

California Plant and Soil Conference, Quality Inn, Sacramento, Calif., Jan. 28-30.

Connecticut Tree Protective Association, annual meeting, New Haven Plaza Hotel, Jan. 29.

Turf and Landscape Conference, annual meeting, Tappan Zee Inn, Nyack, N.Y., Feb. 4.

American Sod Producers Association, mid-winter conference, Sheraton Sand Key, Clearwater, Fla., Feb, 5-6.

Golf Course Superintendent's Association of Americaa, 47th international conference and show, Auditorium and Convention Hall, Minneapolis, Minn. Feb. 8-13.

Midwestern Chapter, International Society of Arboriculture, Sheraton-O'Hare Motor Hotel, Rosemont-Chicago, Ill., Feb. 10-12.

Illinois Landscape Contractors Assoc., annual seminar, Villa Olivia Country Club, Feb. 12-13.

Canada Chapter, International Society of Arboriculture, Chateau Frontenac Hotel, Quebec City, Quebec, Feb. 12-14.

National Arborist Assoc., annual meeting, Vacation Village, Mission Bay, San Diego, Calif., Feb. 15-19.

Wisconsin Arborist Association, annual convention, Midway Motor Lodge, LaCrosse, Wisconsin, Feb. 18-19.

Southern Chapter, International Society of Arboriculture, Myrtle Beach Hilton, Myrtle Beach, S. Carolina, Feb. 22-25.

Shade Tree Short Course, 19th annual,Scheman Continuing Education Center, Iowa State University, Ames, Iowa. Feb. 25-27.

Professional Turf and Landscape Conference, sixth annual, Ramada Inn, North Haven, Conn., Mar. 3.

Pennsylvania Parks and Recreation Society, 29th annual meeting, Seven Springs Mountain Resort, Champion, Pa., Mar. 14-17.

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Cleveland, Ohio 44102

St. Louis' Tree Program Receives Governor's Award

The city of St. Louis, Mo. is the recipient of that state's Town Treescape Award for its community action tree planting program known as "Project Greenback."

The problem of tree loss in St. Louis has taken a vast toll due to enthracnose in sycamore and Dutch elm disease. There has been an annual mortality rate of some 4,000 trees; with only 500 to 700 trees being replaced by the city.

This loss has taken a vast toll on the city's estimated tree population of close to 170,000 trees.

A city-wide tree awareness program was needed to stimulate all citizens to financially assist in the replacement of street trees in front of their homes and businesses.

Project Greenback was initiated in 1971 by the Residential Betterment Section of the Community Development Agency.

With federal matching grants, up to two-inch caliper trees were purchased and planted by the city. A special offer of six to eight foot trees was given to neighborhood associations and organized groups who were willing to plant the trees themselves.

Trees also were planted in other public areas upon personal request of donors.

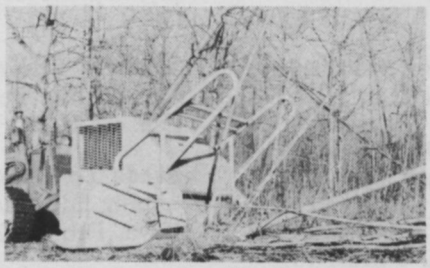
Under this program, the downtown merchants are placing redwood boulevard planters along their business fronts. They are sturdy containers, two feet high and three feet square and lined with styrofoam for insulation.

Because outdoor grooved redwood plywood was used, the cost was only $95 per unit.

According to St. Louis area landscape architect Robert J. Stoffel, 5,000 trees have been planted annually in S. Louis because of this program.

Royer Acquires New Line Of Land-Clearing Machines

Royer Foundry & Machine Co., Kingston, Pa. has acquired the Shred-King line of land-clearing machines previously manufactured by Triumph Machinery Co., Hackettstown, N.J. Announcing the purchase, Stanley S. Davies, Royer president, said, "The Shred-King, which will be renamed the Woodsman, will expand the lines of equipment our Agricultural Products Div. is manufacturing for renovation and development of land."



New Royer Woodsman

Royer's Agricultural Products Div. manufactures brush chippers as well as a full range of shredders which are used for preparation of topsoil and large-scale leaf composting.

The Woodsman can clear up to three acres of land a day by cutting down and chipping trees up to six inches in diameter and brush. The chipped material falls as it is cut to blanket the site with a mulch, Royer said. The Woodsman will be manufactured in self-powered models for use with bulldozers and loaders, and PTO driven models, for tractors and Unimogs, Royer said.

30 Educational Seminars Announced by J. J. Mauget

Thirty educational seminars designed to inform commercial arborists about the use of nutrient and pesticide tree injection products have been announced for 1976 by the J. J. Mauget Co., Burbank, Calif.

Each seminar will be held in a metropolitan location accessible to area arborists. The one-day meetings scheduled for January through April are open to all arborists, foresters, tree care men, department of agriculture, and city, county, state and university personnel.

Program moderator for each seminar is Del Kennedy. His many years as an arborist and his knowledge of tree injection will be of interest to those attending.

Other highly qualified guest speakers will participate in many seminars where possible.

"We believe that there is a great amount of new information now available which will be of interest to those who have attended previous meetings during the last four years and to those who will be attending for the first time," Kennedy told WEEDS TREES & TURF.

"Our field research program headed by Dr. W. D. Thomas and Forest-Ag of Lafayette, Calif., has resulted in many new and interesting applications of Mauget Tree Injection products," he said.

Among the topics to be presented at the seminars is a discussion on the use of Inject-A-Cide (metasystox-R) and Inject-A-Cide B (bidrin). The EPA registration for these two products now allows trained applicators to inject trees to control insects in most of 50 states.

Mauget says that in a number of incidences, there is no other effective control available.

The company also plans to review the results of field trials with its new fungicide, Fungi-Sol DEBC. Four years of testing has shown that Fungi-Sol, when used with the Mauget process, is capable of controlling most *Fusarium* and *Verticillium* wilt, canker and decline diseases.

In addition, Fungi-Sol has produced data indicating it to be the most promising of the experimental

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materials and methods which are being used against Dutch elm disease, according to Mauget.

Exact dates and locations will be mailed on request to interested persons.

Write: J. J. Mauget Co., P.O. Box 3422, Burbank Calif. 91504.

California Turf Exposition Set for January 29-30

A total facelift is in store for the 12th Annual Northern California Turfgrass and Environmental Landscape Exposition January 29-30.

The site again is the Hall of Flowers at the San Mateo County fairgrounds. A complete new floor plan has been developed and approved by exposition chairman Paul Albright and co-chairman Grady Simril which will provide 30 additional exhibit spaces.

Anyone interest in further information about the exposition can write P.O. Box 268, Lafayette, Calif. 94549, or call 415-283-6162

Green Chairman In Office Longer Aids Superintendent

Administrators and green chairmen should serve for a longer period with a vice chairman or second in line to provide a continuity of club policy without radical change, according to Charles Calhoun, consulting turf specialist.

He also says these administrators should familiarize themself with the policies and practices of successful clubs by visitation or by attending meetings now and then to listen and ask questions.

"Overly frequent changing of green chairmen each often trying to install policy and practices he believes will solve all the problems of economics and at the same time offer better golfing is a problem," Calhoun said in the newsletter of the Iowa Golf Course Superintendents Association.

"Caught up in all this is the superintendent, who unlike the green chairman expects to hold a job for a reasonable length of time. Differences of opinion arises to a friction between superintendent and administrator and it is always the superintendent who goes, right or wrong."

Green Drainage Problem Solved by Nebraska Super

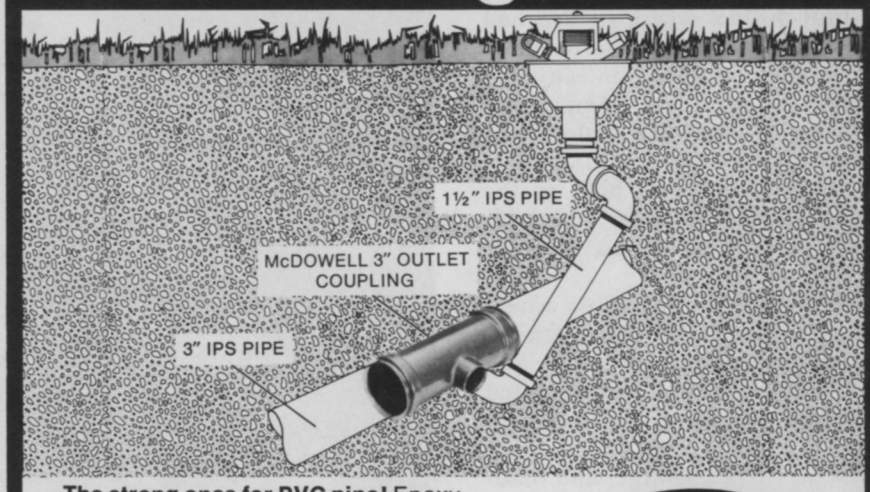
Maury Spence of Hillcrest Country Club, Lincoln, Neb., had difficult drainage problems on many of his 1928 greens, and his temporary solution to the problem may be of use to other superintendents across the country with the same problem.

"In original construction the drain tile was placed 24 inches below the surface surrounded in a trench by rock," Spence said. "In exposing and inspecting the tile it was found to be clean and dry in most areas, suggesting the water had never reached it. Many of the greens have developed pocket areas which tend to hold water after a rain and stay softer than desirable from normal watering. The result on the smaller greens having this problem is thinning of the turf."

Spence said his club could not afford complete green construction, so an alternative temporary solution was worked out. He probed in his problem areas to locate the nearest existing drain tiles. Then one square foot of turf one to two inches deep over the tile was removed. He then augered a hole about eight inches in diameter until the top of the tile was exposed, and cleaned the soil from the top of the rock surrounding the tile. Then he punched a silver dollar-size hole in the top of the tile, placed a two-inch layer of straw in the hole and a six-inch layer of pea gravel on top of the straw.

He then filled the hole with sand to the surface, flooded the hole to settle the sand and added more sand to reach the surface, and replaced the original turf. "I am happy to report that to date they are working much better than expected," Spence wrote in the newsletter of the Nebraska Golf Course Superintendents Association. "We have received considerable comment from the membership concerning the improved condition of the greens. Also, we have experienced two heavy rains since installation and these greens were the best-drained on the course."

this is the steel coupling for turf irrigation



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Vegetation Control Engineers Tour Herbicide-Treated Tracks

Seeing is believing! That's why Elanco Products Company invited railroad vegetation control engineers and railroad commercial application contractors to see results of demonstration plots treated with Spike 80W alone and in combination with a variety of weed-control chemicals.

The three-day tour began in Chicago at the Burlington Northern yard and mainline towpaths where a pre-emergence application of three pounds of Spike per acre had been made in early April. Tour takers observed the control of ground vegetation which greatly enhances ballast drainage and provides safer working areas for train and maintenance crews.

Chemical residual effectiveness was demonstrated at the next tour site in Kankakee, Illinois, on the Illinois Central Gulf branch line. Here, most of the plots had not been chemically treated since October, 1973, or October, 1974.

The group finished the tour in Lebanon, Indiana, on the Penn Central branch lines where Elanco had treated 27 different quarter-mile-long experimental plots in May and early June with post-emergence applications of chemicals alone and in tank-mix combinations. Also at this site, interest was high in the brush control experiment using 10, 20, or 40 percent Spike granular pellets.

On almost all the plots where Spike was used, Dr. Tom Perkins, Lilly coordinator, specialty and technical products research, rated the control for bluegrass, Canadian bluegrass, horsetail, ragweed, marestail, foxtail, spurge, and toadflax as excellent.

Railroad personnel and commercial contractors left the tour with eyewitness evidence of Spike's residual characteristics and low-rate efficiencies and of the broader weed spectrum of tank-mix combinations. □

On the Lebanon, Indiana, Penn Central branch line, vegetation engineers and application contractors stop to make a thorough check of experimental plot results.

Foreground shows the results of an herbicide application made in May, 1975, compared to check area.

THE ASSOCIATIONS

Backbone of the Green Industry

American Association of Nurserymen

230 Southern Building
Washington, DC 20005
Robert F. Lederer, Executive Vice President

Officers: Palmer W. Bigelow, president; L. J. Hilscher, vice president; Ernest A. Tosovsky, treasurer; Henry A. Weller, John B. Wight, Jr., Ernest A. Tosovsky, Huge Steavenson, L. J. Hilscher, Itsuo Uenaka and Louis Hillenmeyer, Jr., directors.

Members: 2,509

1975 accomplishments: Prime objective was to establish national recognition for the nursery industry through such programs as the following. National Landscape Awards — annual program to publicly recognize those firms making significant contributions to environmental improvement through landscaping. Nursery Industry Cooperatives Advertising Program — national marketing program to position nursery industry's products and services in mind of consumer through use of national advertising themes. Green Survival — environmental action campaign which emphasizes vital role of plant material in the eco-system. There is a strong emphasis on bicentennial planting programs that is officially recognized by the American Revolution Bicentennial Administration. Also includes a Green Survival City program which recognizes cities which have proven to be actively involved in environmental improvement. Public Information Services — expansion of this program to include monthly public service announcements on radio and newspaper packages. Other objectives included cooperation with the U.S. Dept. of Interior's Johnny Horizon program and *My Weekly Reader* in green survival and education of youth to importance of plant materials; important legislative representation in Congress and federal agencies on wage-hour laws, OSHA, taxation, pesticides, energy, transportation, plant labeling, quarantines, federal research, postal rates, consumer affairs, farm labor, price and wage controls. The association also celebrated its 100 anniversary in 1975.

1976 goals: Expansion and improvement of all programs and activities, with heavy emphasis on bicentennial/green survival promotion activities and continued vigilance on all legislative activities to protect and enhance nursery industry position.

American Society of Consulting Arborists

122 Lakeview Avenue
Milltown, New Jersey 08850
201-821-8948
Spencer H. Davis, Jr., executive director

Officers: O. J. Andersen, president; F. Earle Martin, president-elect; William P. Lanphear, vice president; F. L. Dinsmore, secretary-treasurer; W. Roland Shannon, past president. Walter J. Barrows; Wilfrid Wheeler, Jr., Nat P. Dunn, Arnold H. Webster, directors.

Members: 150

1975 accomplishments: Acceptance by insurance services offices of our recommendation to raise payments on homeowners policies for tree losses. This increase effective the first of this month in six trial states. The committee on shade tree evaluation completed the revision of the evaluation booklet which has been printed in cooperation with other associations entitled "A Guide to the Professional Evaluation of Landscape Trees, Specimen Shrubs and Evergreens." The membership is now present in 32 states, two Canadian provinces and in Brazil.

1976 goals: We hope that the Internal Revenue Service this year will accept our proposals to allow casualty loss claims on private properties based on value of trees as distingushed from the before and after valuation of properties as a whole. The allowance is now made for business properties and we are endeavoring to have the same consideration given to the private property owners. Would hope for the increased payments on tree losses on homeowner insurance policies in all states. A public relations program will be conducted in cooperation with other associations to obtain national recognition of the new shade tree evaluation methods recently set forth. We will try to obtain qualified members in the areas of the U.S. and Canada not presently served by ASCA members.

American Sod Producers Association

Association Building
9th and Minnesota
Hastings, Nebraska 68901
402-463-5691
Bob Garey, executive director

Officers: Norm LeGrande, president; Charles Lain, vice president; Glenn Rehbein, secretary; Tom Thornton, treasurer; Charles Davis, past president; Parker Shirling, E.

Backbone of the Green Industry *(from page 33)*

John Hope, Paul Florence, Jack Kidwell, board of directors.

Members: 268

1975 accomplishments: Annual mid-winder conference in Tuscon, Arizona attracted a record attendance. Summer field days and convention in July in Kansas City were likewise most successful events. Publication of a brochure which included summaries of federal regulatory agencies as well as interpretations of various state agencies on a number of subject areas which have ruled that sod production is within the definition of agriculture for regulatory purposes was compiled and distributed to the membership. Periodic reports regarding rulings involving the industry were also made available to the members. The office of legal counsel William Harding was utilized in quite a number of occasions by various members who encountered difficulties with regulatory agencies either at the federal or state level. Continuation of a nationwide survey to determine people actually in the sod production industry and extent of their operations. Membership roster was printed and distributed. Work was begun on a multicolored brochure to be made available to the membership for uses in promoting sod and the use of sod and caring for sod. A logo to be symbolic of the national organization was in its initial stages.

1976 goals: Annual mid-winter conference set for Clearwater, Fla. February 5 and 6. Annual convention and field days in Newport, R.I. July 28 and 29. Brochure on the promotion, use and care of sod will be made available to members. The brochure and new logo should be a help to members. There will be continued expansion of legal services for members. The availability of uniform accounting systems will be promoted. The quality and number of publications from ASPAwill be improved and strengthened. Increased cooperation with state and area sod producing organizations will be emphasized.

Associated Landscape Contractors of America

1750 Old Meadow Road
McLean, Virginia 22101
703-893-5440
Thomas Hal Stewart, executive director

Officers: Lew Hammer, president; Ronald A. Ahlman, president-elect; Duane Nelson, vice president; William C. Byers III, vice president; Dick Brickman, treasurer; William Thornton, secretary.

Members: 400

1975 accomplishments and 1976 goals: Continued membership growth, establishment of a series of business seminars for landscape contractors, establishment of a network of specialty committees each concentrating on a different aspect of landscape contracting, including erosion control, irrigation, maintenance, interiorscape, design/build, and golf course building. Also, emphasis and improvement of the image of the industry, and sponsorship of summer seminars for high school and junior college students at Mississippi State University.

Garden Centers of America

230 Soutern Building
Washington, DC 20005
Nate McMullen, administrator

Officers: Jack Schneider, president; Gary Gern, vice president; John Horton, secretary-treasurer; Larry Bachman, Curtis Smith and Daniel Capper, directors.

Total membership: 335 firms

1975 accomplishments: First joint management clinic with National Landscape Association; new employe orientation guide; wage and fringe beneft survey; successful 1975 membership promotion program.

1976 goals: To be set at year-end board of directors meeting.

Golf Course Builders of America

725 15th Street N.W.
Washington, D.C. 20005
202-628-0555
Harry J. Lambeth, executive director

Officers: Frank A. Underwood, president; Nick A. Siemens, president-elect; Edward A. Hunnicutt, vice president; E. M. Witter, secretary; Eugene M. Brown, treasurer.

Total membership: 40

1975 accomplishments: Compiled and studied golf course construction contracts; worked closely with golf course architects in seeking to establish certain standards; promoted quality golf course construction; published a national biographical directory of members to assist golf course owners and architects to check construction references and quality or work of members contractors; held an annual meeting for discussion of golf course construction problems.

1976 goals: Key objective is to amend the National Electrical Code established by the National Fire Protection Association to provide that low voltage underground cables used in irrigation of golf courses be at a burial depth of 12 inches instead of the present 24 inches. The sixth annual meeting and dinner will be held during the GCSAA Minneapolis convention.

Golf Course Superintendents Association of America

1617 St. Andrews Drive
Lawrence, Kansas 66044
913-841-2240
Conrad L. Scheetz, executive director

Officers: Palmer Maples, Jr., president; Richard W. Malpass, vice president; George W. Cleaver, secretary-treasurer; Charles G. Baskin, past president. Louis D. Haines, Melvin B. Lucas, Jr., Charles H. Tadge, Gordon C. Witteveen, Theodore W. Woehrle.

Total membership: 4,012

1975 accomplishments: Topping 4,000 mark in membership; published comprehensive profile of golf course superintendent and course operations; specialized seminars on turf nutritions and golf course landscaping were added to GCSAA courses; speakers bureau established; began collecting materials for library and established lending and sales section; position paper on fertilizer use given nationwide distribution; pesticide seminar widely accepted as standard; dealt with OSHA regulations; certification program showed outstanding growth; publicity program helped increased public awareness of superintendent's role during major tournaments; newsletter sent to superintendent association around the world.

1976 goals: Celebration of 50th anniversary; personal and professional advancements for superintendent sought through combination of

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12 West Covina, CA
Holiday Inn
San Bernardino Freeway

14 San Jose, CA
Holiday Inn Downtown

16 Sacramento, CA
Holiday Inn South
US 99 at 47th

19 Portland, OR
Holiday Inn, 10 N. Widler

21 Salt Lake City, UT
Holiday Inn Airport

23 Phoenix, AZ
Holiday Inn Airport

26 El Paso, TX
Holiday Inn Airport

28 Oklahoma City, OK
Holiday Inn Airport West

30 Kansas City, MO
Holiday Inn Airport

February

2 Tallahassee, FL
Holiday Inn Downtown

February (Cont.)

4 New Orleans, LA
Holiday Inn Airport

6 Houston, TX
Holiday Inn Airport

25 Nashville, TN
Holiday Inn Airport Southeast

26 Memphis, TN
Holiday Inn Airport

27 Atlanta, GA
Holiday Inn Airport

March

2 Gaithersburg-Rockville, MD
Holiday Inn

3 Hershey, PA
Hershey Hotel

4 West Philadelphia, PA
Marriott City Line Ave.

5 Freehold, NJ
American Hotel

15 Pittsburgh, PA
Holiday Inn Parkway West

March (Cont.)

16 Syracuse, NY
Holiday Inn East

17 Boston, MA
Holiday Inn Gov't. Center

18 Long Island, NY
Holiday Inn Hauppauge
Long Island

22 Cleveland, OH
Holiday Inn Airport West

23 Cincinnati, OH
Holiday Inn Riverfront
Covington, KY

25 Peoria, IL
Holiday Inn East

29 Grand Rapids, MI
Holiday Inn East

31 Milwaukee, WI
Holiday Inn Airport South

April

2 Minneapolis, MN
Holiday Inn Airport #1

5 Omaha, NE
Holiday Inn I-80 at 72nd

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(Location)

NAME(s)_____

Representing_____

Address_____

Phone_____

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Backbone of the Green Industry *(from page 34)*

regional education programs and expansion of association's annual national conference program and publicity and publications helpful to superintendent's image; technical turf management subjects will be treated through audio-visual aids and publications; education advisory council will be utilized to develop educational programs and materials; members will be constantly advised of new government developments as they apply; finalization of member pension plan; closer relationships between association and other organizations

International Shade Tree Conference

3 Lincoln Square
P.O. Box 71
Urbana, Illinois 61801
217-328-2032
E. C. Bundy, executive secretary

Officers: Jack R. Rogers, president; Hyland R. Johns, Jr., president-elect; Yvon Fournier, vice president; E. B. Himelick, executive director; Dan Neely, editor.

Members: 2,607

1975 accomplishments: Completed revision of shade tree evaluation publications; increased sponsorship of arboricultural research programs by extending financial support to projects at three universities; continued legal establishment of changing the not-for-profit corporate status and name of the organization from International Shade Tree Conference to International Society of Arboriculture, effective Jan. 1; finalized establishment of a Memorial Research Trust Fund, donations to which are recognized as tax-deductible; enjoyed the 51st annual convention meeting, where substantial pledges for fund were received.

1976 goals: Will activate broad promotional program to publicize shade tree evaluation publication with the assistance of a public relation firm; will initiate a bicentennial tree recognition program jointly with the National Arborist Association; will continue to promote the existence of new Memorial Research Trust Fund by soliciting contributions.

National Agricultural Aviation Association

Suite 459
National Press Building
Washington, D.C. 20045
202-638-0542
Farrell Higbee, executive director

Officers: James L. Maxwell, president; James V. Kedder, vice president; Paul E. Hursh, secretary; Dennis M. Dixon, treasurer.

Members: 1,075

1975 accomplishment: Published monthly magazine called "The World of Agricultural Aviation;" maintained Washington office to assist members; maintained a sizable library for ready research; monitor government agencies.

1976 goals: Will hold national convention this month in Las Vegas, with technical sessions and exhibits with over 130 companies displaying products. Total attendance will be over 2,500 persons. Continue member services in addition to convention.

National Arborist Association

3537 Stratford Road
Wantagh, New York 11793
516-221-3082
Robert Felix, executive secretary

Officers: Thomas A. Morrison, president; Royd Haney, first vice president; Gerald E. Farrens, second vice president; Kenneth Kirk, secretary; Larry Holkenborg, treasurer; Bruce M. Walgren, Walter E. Money and Erick H. Haupt, directors; George Tyler, associate director; W. Roland Shannon, past president.

Members: 255

1975 accomplishments: Set up joint bicentennial tree recognition program with International Shade Tree Conference; established a working relationship with the federal Environmental Protection Agency; increased the membership of the association as well as exposure as an important force in the tree care industry.

1976 goals: Intend to participate in bicentennial celebration by recognizing certain significant 200-plus year old trees; will expand educational programs to encompass not only employes and other tree workers but as an educational process for public; will continue to build membership and exposure in order to better serve tree care industry.

National Landscape Association

230 Southern Building
Washington, DC 20005
F. Raymond Brush, administrator

Officers: Donald E. Johnson, president; Dale K. Manbeck, vice president; Richard Kauffman, secretary-treasurer; board of directors include Manbeck, Kauffman, Gerald W. Harrell, Tom Gilmore, Frank L. Tomlinson, Richard L. Ammon and Joe Wayman.

Members: 596 firms

1975 accomplishments: Projects carried out were correspondence bidding exercises to help members evaluate their bidding practices; management clinic; annual residential design awards programs; annual landscape tour; periodic "News Notes" to keep members informed; compilation of various landscape business forms; and current survey of landscape practices in area of wages and fringe benefits.

1976 goals: Will continue publishing representative landscape business forms; again co-sponsor management clinic in Louisville, Ken., Feb. 22-25; with Michigan State University conduct a study of landscape management accounting systems; develop a landscape salesman's handbook; increase frequency of "News Notes;" conduct another landscape tour.

Professional Grounds Management Society

1750 Old Meadow Road
McLean, Virginia 22101
703-893-7787
Thomas Hal Stewart, executive director

Officers: Allan Shulder, president; Tom Lepping, treasurer; C. Francis Lay, vice president; Donald J. Comes, Fred W. Garret, Owne H. Walker, Dick Connelly, Wayne Casey, Robert W. Doherty, John Brugeman, Bernard Nees and Anne O. Seaman, board of directors.

Members: 600

1975 accomplishments: Network of local groups and membership campaign launched.

1976 goals: To continue membership growth and publication of "Estimating Exercise for Grounds Managers."

Sprinkler Irrigation Association

13975 Connecticut Avenue
Silver Spring, Maryland 20906
Walter D. Anderson, executive secretary

Officers: W. J. Ogle, president; Kenneth B. White, Jr., vice president; Taylor Ramsey, treasurer. William H Barnard, Paul Cochran, Joseph Fiala, Jack Kouns, W. J. Liddell, Edward H. Newbegin, Charles S. Putnam, R. A. Wahl and Raymon York, directors.

Total membership: 425

1975 accomplishments: Employment of full-time educational director and sponsorship of three basic turf irrigation short courses; publication of fourth edition of "Sprinkler Irrigation" with inclusion of material on turf irrigation; expansion of programming at annual technical conference to included concurrent sessions on turf irrigation; publication of "Wastewater Resource Manual."

1976 goals: Amendment of the National Electrical Code Section 300-5 regarding requirements for burial of underground control cables at 12 instead of 24 inches; development of a code for landscape irrigation installation; continued expansion of programming related to turf irrigation through publication conference and continued scheduling of a minimum of three turf irrigation short courses a year.

Utility Arborist Association

c/o Bernard E. Swisher, Forester
Columbus & Southern Electric Co.
215 N. Front St.
Columbus, Ohio 43215
614-226-6411
Richard E. Abbott, executive director and editor

Officers: Swisher, president; G. A. Kihl, president-elect; E. T. Nease, vice president; W. B. Clowney, secretary-treasurer; Ruffin Van Bossuyt, Jr., Edward F. Bramann, Jr., Hyland R. Johns, Leo D. Creed, Robert E. Stein, Huey P. Sykes, J. E. F. Winter, I. O. Bauer, directors.

Members: 400

1975 accomplishments and 1976 goals: Has pursued its objectives of providing continuity for investigative efforts in the field of utility arboriculture, acting as a responsible and knowledgeable source of information for its members and other interested, and providing those in the field with an organization of the broadest international base to partcipate in and draw from. The organization meets annually, six newsletters are mailed, committee work includes studies of tree growth control, tree selection, right-of-way maintenance, training and liaison with Edison Electric Institute. □

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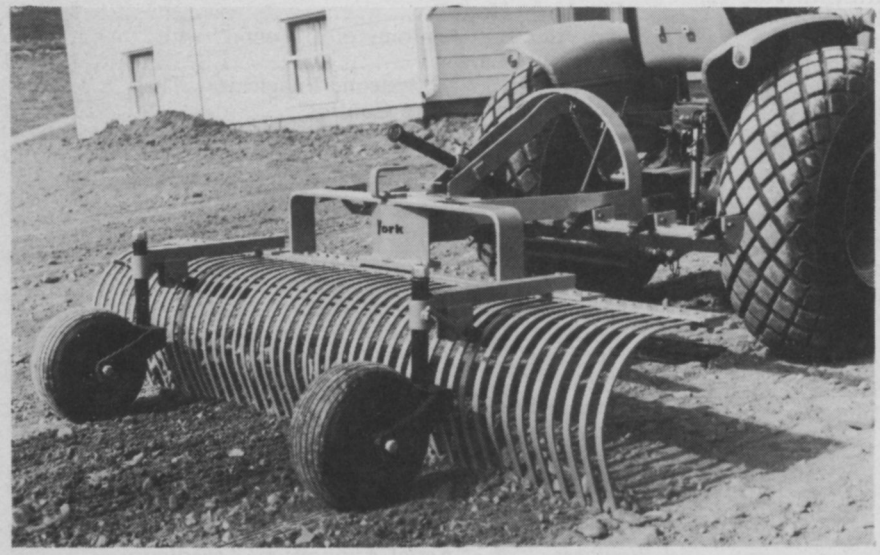
New Products

NEW FEATURES: Automotive steering and shock absorbers are new standard features on 1976 model Cushman Runabout vehicles. Other standard features on the three-wheel utility cart include turf tires, front shocks and a utility pickup box measuring 46 in. x 34¾ in. x 14 in. Equipment options include front bumper, speedometer, overload springs, steel cab with cloth or steel doors and an exhaust spark arrestor set.

Circle 701 on free information card.

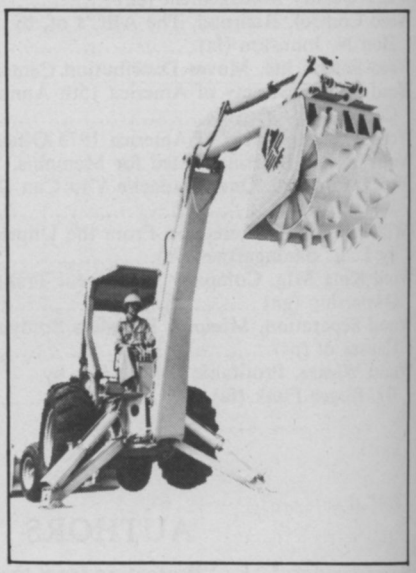


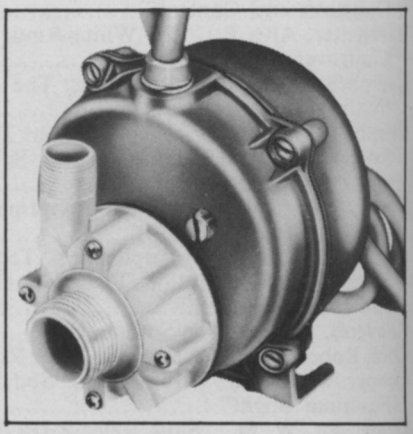
RAKE: York Rakes introduces this new unit designed and built specifically for use with the new 20 to 30 HP tractors. Up until now, according to the manufacturer, landscapers using this new breed of tractor had to resort to rakes built for other horsepower ranges. This unit features welded steel construction and a seven foot working width. The rake can be drawn straight across for leveling and spreading soil, or can be angled to the right or left to discharge excess soil, rocks and debris.

Circle 702 on free information card.

COMPACTOR: This unit mounts on a backhoe boom and rolls along the full width of a trench during backfilling. It uses the hydraulics of the boom for back and forth movement and uses the weight of the backhoe for compacting the soil like the sheepsfoot roller it resembles. The unit is manufactured by Earth Pack Industries.

Circle 703 on free information card.



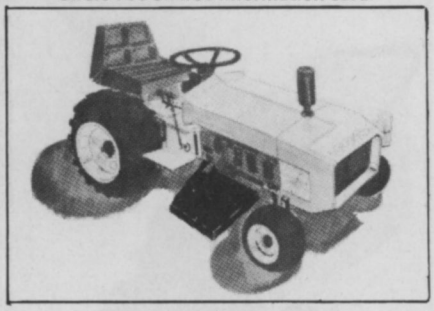


PUMP: This new 115 VAC centrifugal pump can be operated in or out of water and is engineered for continuous operation, says Proven Pumps Corp. Designed specially for silent, efficient, continuous circulation of water and other liquids, the pump is easily unclogged when necessary.

Circle 704 on free information card.

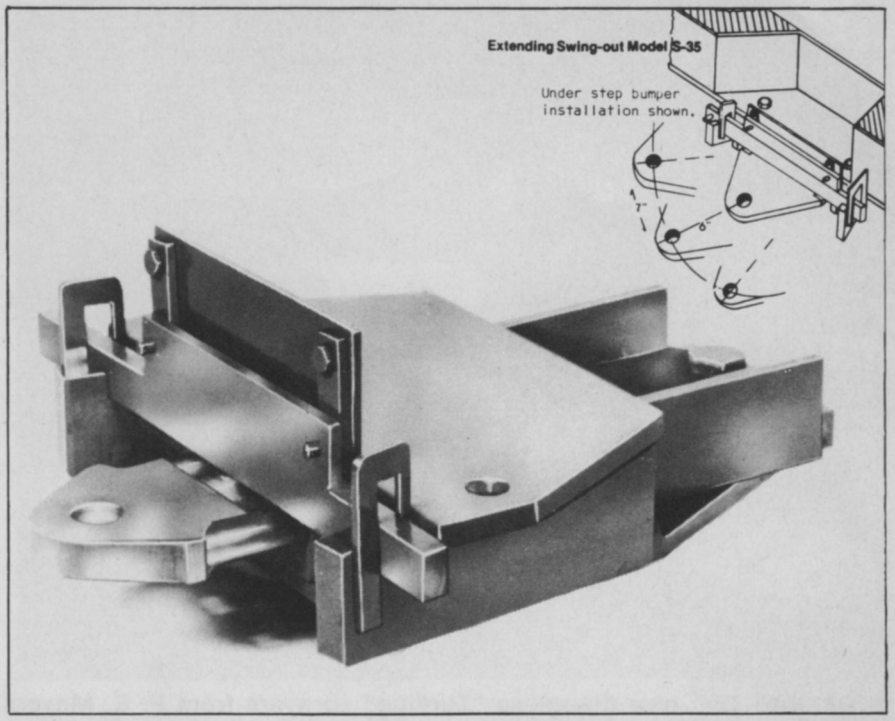
SLOPE RUNNER: Slope Tractor, Inc., introduces this new tractor with a rotary mower to compliment its line of tractor and mowing machines that, according to the company, operate with safety, efficiency and comfort on sloping terrains. The unit has axles which tilt right or left, thirty degrees for mowing on grades up to 1.73 to 1.0. For operator comfort, the driving axle remains parallel to the slope while the driver and engine and wheels remain vertical. It also features a 2-post roll bar. The tilting mechanism is hydraulically operated with an automatic leveler.

Circle 705 on free information card.



LIFT: Maxon Industries claims this portable lift unit requires no underground post holes yet it has the strength to lift passenger cars, pick-up trucks, and vans weighing up to 7,000 lbs. The lifting capacity of this unit is designed for general repair work. It features three position settings which lock automatically at 14 in., 24 in., and 28 in. It incorporates all the safety and convenience of previous models, plus an extra margin of lifting strength for heavier loads, says Maxon.

Circle 706 on free information card.



HITCH: Here's an extending swing-out model hitch from Superflex Hitches that features an 80,000 lb. rolling load capacity for cars, trucks or tractors. The company claims it has a maximum 1,500 lb. tongue weight. The hitch extends out from the housing and swings onto the trailer tongue, making it possible for one man to hook-up the load. By backing up the towing vehicle, the hitch automatically locks into place. A cushion of Goodyear Neothane acts like a shock absorber to take out the tugging, swaying, or jerking caused by trailing loads.

Circle 707 on free information card.

FITTINGS: Lasco Industries introduces these new gasketed pressure fittings for water distribution and irrigation systems. Extra-depth sockets in the fittings maintain integrity of the seal and compensate for earth movement, uneven trenches, expansion and contraction of the pipe, as well as lateral movement, says the manufacturer. These units use the supremacy of a sphere as the strongest shape for a pressure container.

Circle 708 on free information card.

TURFLINE: Two new fiberglass "Turfline" sprayers from F. E. Meyers can be mounted on all utility cart boxes, as well as a Cushman Truckster chassis. The units are said to be effective in turf maintenance — fairways, greens, lawns, etc. — tree maintenance as well as for mosquito control. The TL40ESG is rated at 40 gpm and 30 psi, while the TL10ESG delivers 10 gpm and 30 psi. Rachet ball valve with remote control rope actuator is standard. Many options are also available, including stainless steel booms with dripless nozzles, spray guns, anchor mounting kits, trailer kit with Terra Tires, etc.

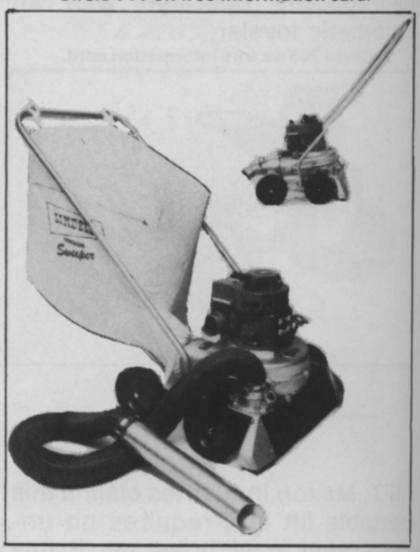
Circle 709 on free information card.

DIGZ-ALL: This unit is equipped with a 37 HP Wisconsin VG4D engine. It is built primarily for heavy-duty trenching, says the manufacturer. ROPS and fully hydraulic backfill blade are standard components. Ground drive for trenching is infinitely variable and hydraulic. Trenching depth range is from 40 in. to 82 in. with a range of 5 in. to 18 in. trench width. Digging speed is 0 to 30 fpm.

Circle 710 on free information card.

SWEEPER/BLOWER: The Lindell Power Sweeper is made almost completely of cast aluminum which is said to be a very dependable structure with a low maintenance factor. The four-wheeled machines are built in two sweeping widths, 24 in. and 27 in. Both units use a 3½ HP Briggs and Stratton gas engine. The 24 in. model has a breathing-type bag and the 27 in. unit has a larger dust resistant bag with a large zipper. Also new is an optional feature of a multi-directional blower discharge nozzle.

Circle 711 on free information card.



SPRAYER: Universal's new Spray Doc features a non-corrosive polyethlylene tank, a foldaway handle and quick-pressure pump, easy-grip discharge system with thumb release, an extra large filler cap and a tamper-proof automatic pressure release safety valve. The unit is available with tank capacities of 1½, 2 and 3 gallons.

Circle 712 on free information card.

A W.I.N.ner USES LESS... LOSES LESS.

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STH75-3

Be a W.I.N.ner with Nitroform®, the slow-release organic nitrogen that nourishes turf and seedlings in nature's own way. **Nitroform** ureaform assures a steady supply of water-insoluble nitrogen (W.I.N.) for long-lasting feeding.

Achieve W.I.N.ning results with fewer applications compared to conventional organic nitrogens.

A W.I.N.ner fertilizes turf efficiently and economically because **Nitroform** 38-0-0...

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Ask for a fertilizer containing Nitroform. With **Nitroform** you are always a W.I.N.ner!

YOU USE LESS...
YOU LOSE LESS
With **NITROFORM®**

A burst of brilliance...
Fylking for the World's Fair!

Fylking Kentucky bluegrass is a superior, elite bluegrass that burst like a star on the scene in the sixties!

Since then Fylking has established records making it the perfect choice for the official grass at the environmental World's Fair, Expo '74.

Fylking has proven to have superior resistance to disease and drought; withstands traffic. Its thickly woven rhizome root system develops dense sod so quickly Fylking can be lifted in 90 days. Fylking can be mowed at 3/4 inch (even 1/2 inch) and thrive. It absorbs carbon dioxide pollutants, gives off oxygen, cools air by releasing water vapor.

A superior mixer, Fylking greens up earlier in spring, stays greener in summer heat, remains green longer into fall.

Choose Fylking and your customers are getting a grass good enough for a World's Fair!

0217

FYLKING KENTUCKY BLUEGRASS

U. S. Plant Patent 2887

Another fine product of Jacklin Seed Company

Fylking's rhizome root system develops so thickly, under ideal conditions sod can be lifted in 90 DAYS.

Low growth, short leaf sheaths and abundant tillering of Fylking (right) compared with another elite bluegrass plant.

Cross section displays thick, luxuriant turf, fine leaf texture and brilliant green color of Fylking.

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When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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FOR SALE

GRASS SOD: Meyer Z-52, Emerald and Matrella Zoysia-Tufcote Bermuda-Centepide 50 to 199 yards at $1.70 per yard — 200 yards and up @ $1.30 per yard. Ask for quotes on large quantities. Cartwright Nursery Company, Collierville, Tennessee 38017. Phone 901 853-2352.

USED EQUIPMENT

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VERMEER TREE SPADE TS-30 TS-44T, and TS-66T. Bowie Hydro-mulcher 500 gallon, trailer model. Call for complete details. Phone 817 461-9209.

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SOD QUALITY Seeds Merion, Fylking, Delta, Park, Newport, Nugget, Adelphi, Cheri, Glade and Baron bluegrasses also fine fescues. Manhattan rye grass. Custom mixing available. Michigan State Seed Co., Grand Ledge, Michigan 48837. Phone 517 627-2164.

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POSITION WANTED

HORTICULTURIST: Challenging supervisory position desired. Reply Box 143, Weeds, Trees and Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

Golf Architects New Survey Examines Slow Play Problem

What can the golf course architect do in his design to speed up play?

Reduce hazards and size of greens was the most frequent response of members of the American Society of Golf Course Architects in a recent survey. Other answers ranging from fairway adjustments to building more golf courses also came into play.

"Puttering" around on monstrous greens and flailing away in sand traps are time-consuming, frustrating experiences for golfers as well as those waiting in the fairway.

The obvious solution? "Create fewer hazards," according to ASGCA vice president Edwin B. Seay of Ponte Vedre Beach, Fla. "Design medium-sized greens," argue Albert Zikorus of Bethany, Conn., and ASGCA president Geoffrey Cornish, Amherst, Mass.

Hazards and excessively large greens alone are not to blame for the slow play problem. The imaginative professionals who design golf courses are well aware that golfers' abilities determine the degree of ease with which they conquer challenges. "Eliminate some sand traps and water hazards that bother the average player," is the solution of William H. Johnson of Rialto, Calif. Roger B. Packard, LaGrange, Ill., and Houston's Joseph Finger also feel the average player should be kept in mind when designing hazards. Looking at other variables along with hazards, W. Bruce Matthews, Grand Haven, Mich., suggests, "Analyze each hole for play by the 'average player'."

Further agreement is expressed by William James Spear of St. Charles, Ill., who says, "Do not use an overabundance of hazards and locate them so they primarily catch the low handicap golfers." Spear introduces another aspect: "Keep wooded areas adjacent to fairways free of undergrowth so golfers can easily locate their balls." That would certainly be a welcome relief, not only from the speed-of-play angle, but financially as well!

William Howard Neff of Salt Lake City has a five-point program aimed at faster play on the links: "1) Keep the number of hazards to a minimum, yet effective for strategic play; 2) keep green sizes between 6,000 and 7,500 square feet; 3) avoid severe slopes on putting surfaces; 4) keep landing areas generous but well defined; 5) avoid use of shrubs, bushes and higher grass in play areas."

Fairway design is another area that was frequently mentioned as architects considered ways that their designs could speed up play. "Avoid possible conflicts of adjoining fairways; widen the fairways at distances beyond ability to reach greens.

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Trimmings

The person who said that necessity is the mother of invention surely must have been referring to golf course superintendents when he made that famous claim. We've seen more improvised tools and pieces of equipment redesigned and concocted for a specific job by enterprising superintendents than any other group. Well, all you inventors take notice. To meet with changing requirements in the current marketplace, U.S. companies are constantly looking to introduce new products in order to maintain leadership. A constant search has been underway to develop or locate these products. Over 50 percent of the items being sold today will be obsolete within the next five years. Sources also claim that industry has turned to the independent innovator to help supplement the billions of dollars being spent on research and development. Some companies have established departments for the sole purpose of reviewing and evaluating submissions from outsiders. So, to accommodate all you would-be Edisons there's a new brochure available free of charge to inventors. For your copy write: "The Link Between the Inventor and Industry," One Biscayne Tower, 2 South Biscayne Blvd., Miami, Fla. 33131.

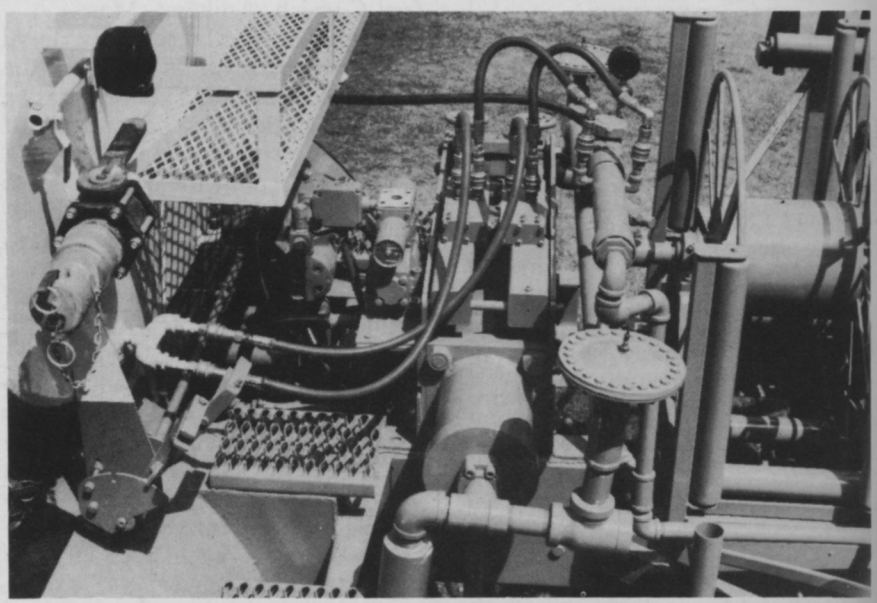
Much has been said about slow play on the golf course and what to do about it. But a recent slow play incident on a Washington, D.C. area public course may be the first to have brought serious injuries and police action to the golfers involved. According to reports from National Golf Foundation, a foursome insisted on playing through and so drove their balls close to the foursome ahead. Then, it is alleged, one of the players in the lead group drove one of the balls from the trailing group into the woods. The trailing group then drove their golf cars to where the lead group was playing and demanded the lead group retrieve the ball from the woods. A fracas followed that left one golfer hospitalized with a fractured skull, another suffered severe lacerations requiring seven stitches. Also included in this melee were three broken golf clubs used to speed-up play. Who said golf was a gentleman's game?

Zipp-Penn recently released an expanded chain saw catalog. It offers chipper chain, safety chain and skip-tooth chain in loops and reels to fit practically all current popular makes of saws. Ripping chain, full-house chain and pond and deck chain are available in reels. Other chain saw equipment is also pictured and priced in the new publication. A copy of the catalog is free on request from: Zip-Penn Catalog Office, Box 43073, Middletown, Ky. 40243.

Recent predictions placed Dutch Elm Disease in California in three to five years. Unfortunately, the disease is already there, being detected in Sonoma County, and Napa County, some 35 miles north of San Francisco and also on the peninsula, south of San Francisco, in Santa Clara County. The infected counties have put into operation the DED Project, in areas of the disease survey, identification, tree removal, treatment, trapping and quarantine. In addition to county participation, the project includes 12 permanent and 35 seasonal state employees. The State's DED lab was also recently moved from Sacramento to Napa County. A total of 481 diseased and exposed Elms have been removed and 331 trees have been sprayed and over 100 woodpiles have been fumigated. Traps have also been set to capture the Bark Beetle.

Chief of the U.S. Forest Service, John McGuire, called for Americans to "dedicate ourselves to expanding our public and private forests as well as managing better the forest lands we have. This requires the close cooperation of business, industry, government and individual citizen."

U.S. District Court in Lincoln, Neb., ordered Morrison-Knudsen, Inc., Boise, Idaho, to give back pay with interest to five of the company's Sutherland, Neb., workers who had been discharged after they walked off their jobs because of hazardous working conditions. In a judgement, filed by the court, without contest by the company, Morrison-Knudsen was permanently enjoined and restrained from violating provisions of OSHA, that protects employees against discrimination for exercising their rights under the act.



In the May 1975 issue of WEEDS TREES AND TURF we ran an article on John Beheyt's answer to pesticide safety — the proportional mixing spray rig. Since our interview with Beheyt, he has made some design changes and signed up the Weyer Engineering and Manufacturing Co., Enumclaw, Washington, to produce the unit for the commercial market. Pictured above is a Weyer manufactured unit. Beheyt hopes to have his new models ready for sale before 1976.

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